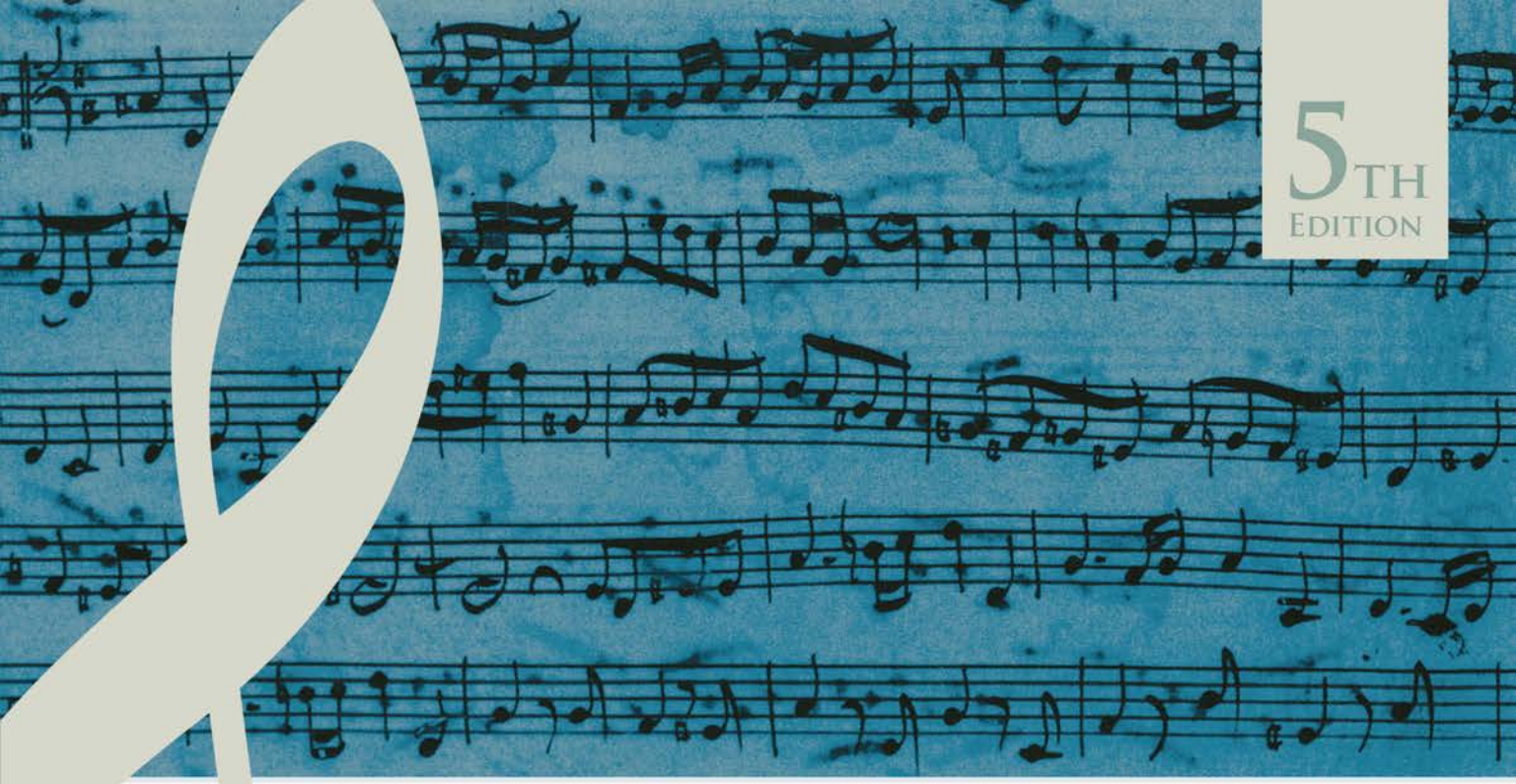

5TH EDITION

HARMONY & VOICE LEADING

Edward Aldwell, Carl Schachter, and Allen Cadwallader

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5TH EDITION

HARMONY & VOICE LEADING

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Contents

Preface xi
Acknowledgments xiv

PART I THE PRIMARY MATERIALS AND PROCEDURES 1

1 *Key, Scales, and Modes* 2

Tonal Relationships; Major Keys 3
Minor Keys; Modes; Tonality 13
Exercises 19

2 *Intervals* 21

Recognizing and Constructing Intervals 21
The Overtone Series 24
Consonance and Dissonance 26
Intervals in a Key 30
Exercises 34

3 *Rhythm and Meter* 35

Rhythmic Organization 35
Rhythm and Dissonance Treatment 42
Exercises 45

4 *Triads and Seventh Chords* 47

Triads 48
Seventh Chords 57
Texture and Structure 60
Exercises 62

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5 *Introduction to Counterpoint* 65

Species Counterpoint 66
Cantus Firmus 68
First Species 69
Second Species 73
Third Species 78
Fourth Species 82
Fifth Species 89
Exercises 95

6 *Procedures of Four-Part Writing* 97

Chord Construction 97
Counterpoint in Chorale Textures: Voice Leading 106
Points for Review 113
Exercises 114

PART II I-V-I AND ITS ELABORATIONS 115

7 *I, V, and V^7* 116

Tonic and Dominant 117
I-V-I in Four Parts 119
The Dominant Seventh 123
Points for Review 129
Exercises 129

8 *I^6, V^6, vii^{o6}* 132

I^6 and V^6 133
vii^{o6} (Leading-Tone Triad) 139
Points for Review 143
Exercises 144

9 *Inversions of V^7* 148

V^6_5, V^4_3, and V^4_2 148
Contrapuntal Expansions of Tonic and Dominant 154
Points for Review 159
Exercises 159

10 *Leading to V: IV, ii, and ii^6* 161

Intermediate Harmonies 162
IV and ii in Contrapuntal Progressions 169
Expansions of ii and IV 172

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Harmonic Syntax; Rhythmic Implications 175
Points for Review 178
Exercises 179

11 *The Cadential $\frac{6}{4}$* 181

An Intensification of V 181
Points for Review 191
Exercises 191

12 *vi and IV^6* 194

Uses of vi (VI) 195
Uses of IV^6 200
Points for Review 205
Exercises 205

13 *Supertonic and Subdominant Seventh Chords* 208

Supertonic Seventh Chords 209
Subdominant Seventh Chords 221
Points for Review 224
Exercises 225

14 *Other Uses of IV, IV^6, and vi* 229

IV and IV^6 230
vi 235
Summary of Cadences 241
Points for Review 242
Exercises 242

15 *V as a Key Area* 244

Tonicization and Modulation 245
Applications to Written Work 258
Points for Review 261
Exercises 261

16 *III and VII* 263

Uses of III 264
Uses of VII 273
Points for Review 278
Exercises 278

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PART III $\frac{5}{3}$, $\frac{6}{3}$, AND $\frac{6}{4}$ TECHNIQUES 281

17 $\frac{5}{3}$-Chord Techniques 282

Progressions by 5ths and 3rds 282
Contrapuntal Chord Functions 287
v as a Minor Triad 293
Points for Review 295
Exercises 296

18 Diatonic Sequences 297

Compositional Functions 299
Sequences with Descending 5ths 303
Sequences with Ascending 5ths 306
Sequences Using the Ascending 5-6 Technique 309
Sequences Using the Descending 5-6 Technique (Falling in 3rds) 312
Less Frequent Sequential Patterns 315
Sequences Moving to Tonicized V 316
Sequences in Minor 318
Points for Review 321
Exercises 323

19 $\frac{6}{3}$-Chord Techniques 325

$\frac{6}{3}$ Chords in Parallel Motion 326
Other Uses of $\frac{6}{3}$ Chords 332
Points for Review 338
Exercises 338

20 $\frac{6}{4}$-Chord Techniques 340

Dissonant $\frac{6}{4}$ Chords 342
Special Treatment of Cadential $\frac{6}{4}$ Chords 350
Consonant $\frac{6}{4}$ Chords 355
Some Special Cases 357
Points for Review 359
Exercises 359

PART IV ELEMENTS OF FIGURATION 363

21 Melodic Figuration 364

Chordal Skips (Arpeggios) 366
Passing and Neighboring Tones 369

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Points for Review 381
Exercises 381

22 *Rhythmic Figuration* 385

Suspensions 385
Anticipations 402
The Pedal Point 406
Points for Review 408
Exercises 409

PART V DISSONANCE AND CHROMATICISM I 411

23 *Leading-Tone Seventh Chords* 412

The Diminished Seventh Chord 413
The Half-Diminished Seventh Chord 420
Points for Review 423
Exercises 424

24 *Mixture* 426

Combining Modes 427
Points for Review 437
Exercises 437

25 *Remaining Uses of Seventh Chords* 439

Seventh Chords in Sequence 440
Expanded Treatment of Seventh Chords 446
Apparent Seventh Chords 450
Points for Review 455
Exercises 455

26 *Applied V and VII* 457

Applied Chords 458
Chords Applied to V 462
Other Applied Chords 467
Applied Chords in Sequence 473
Points for Review 482
Exercises 482

27 *Diatonic Modulation* 484

Modulatory Techniques 485
Modulation, Large-Scale Motion, and Form 491

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Points for Review 498
Exercises 499

PART VI DISSONANCE AND CHROMATICISM II 505

28 Seventh Chords with Added Dissonance 506

Ninths 506
"Elevenths" and "Thirteenths" 517
Points for Review 522
Exercises 522

29 The Phrygian II (Neapolitan) 525

A Chord Leading to V 526
Other Uses of ♭II 538
Chromatic Notation 540
Points for Review 543
Exercises 544

30 Augmented Sixth Chords 547

A Chromatic Preparation for V 548
Approaching Augmented Sixth Chords 553
Details of Voice Leading 560
Augmented Sixths and Modulation 563
"Inversions" of Augmented Sixth Chords 565
Motion to Applied Dominants and Nondominant Chords 568
German Sixth and Dominant Seventh 571
Points for Review 573
Exercises 574

31 Other Chromatic Chords 577

Advanced Uses of Mixture 578
Augmented Triads 584
Altered Dominant Seventh Chords 589
Common-Tone Diminished Seventh Chords 590
Other Chromatic Embellishing Chords 594
Points for Review 595
Exercises 596

32 Chromatic Voice-Leading Techniques 598

Chromaticism Based on Parallel Motion 599
Chromaticism Based on Contrary Motion 611

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Equal Divisions of the Octave 619
Points for Review 629
Exercises 630

33 *Chromaticism in Larger Contexts* 632

New Modulatory Techniques 633
Chromatic Tonal Areas 641
Points for Review 652
Exercises 652

Appendix I *Keyboard Progressions* 656

Appendix II *Score Reduction* 678

Appendix III *Roman Numerals and Registers* 682

Index of Musical Examples 690
Subject Index 694

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Dedication

In Memoriam Edward Aldwell

(January 30, 1938–May 28, 2006)

Edward Aldwell's untimely death occurred durinsg the planning stages for the Fourth Edition but before actual work had begun. His ideas about music and its teaching are evident on every page of this new edition. Edward was a complete musician. He was primarily a pianist, and a wonderful one. Edward was a great teacher of both theory and piano; he was also an outstanding chamber-music coach. His performance students benefited from his analytical insights, and his theory students benefited from his ability to derive implications for performance from theoretical observations—and from the way he translated these implications into sound in his beautiful demonstrations at the piano. My work with Edward on *Harmony & Voice Leading* was a genuine and close collaboration; whatever might be good in the book is due equally to both of us. Our friendship lasted more than forty years, and his death is a grievous loss to me and to the countless students and colleagues who gained so much from his artistry and wisdom.

Carl Schachter

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Preface

The Fifth Edition of *Harmony & Voice Leading* retains the approach and goals of its four predecessors. It offers a thorough and comprehensive course of study in harmony in the music of the eighteenth and nineteenth centuries. At the same time, it emphasizes the linear aspects of music as much as the harmonic, with relationships of line to line and line to chord receiving as much attention as relationships among chords. Large-scale progressions—both harmonic and linear—are introduced at an early stage so that students can gain an understanding of the connection between detail and broad, inclusive plan in a musical composition. They learn that "harmony" is not merely the progression from one chord to the next and that "voice leading" is much more than the way two consecutive chords are connected.

In preparing this new edition, we have reviewed the entire text to improve our manner of presentation, our examples from the literature, our use of terminology, and our exercises. We hope that these changes will make the book more effective for both teacher and student. Among the new features are the following: We have incorporated the upper- and lower-case system of Roman numeral analysis to facilitate students in the recognition of chord quality. Furthermore, we have informally introduced Schenker's notion of *linear progressions*, an important concept in later, more advanced work in tonal analysis.

The book is suitable either for a self-contained course in harmony or for an integrated program combining harmony with other aspects of music. *Harmony & Voice Leading* touches on many of these aspects, including rhythm, melody, counterpoint, and form. It can function, therefore, as the basic text for an integrated program and can serve as a convenient point of departure for systematic work in the other areas, with or without a supplementary text. Many theory programs have returned to the study of species counterpoint, usually at an early stage. This book would combine very well with work in species counterpoint; such a combination would provide an excellent basis for the understanding of tonal music. But counterpoint need not precede or accompany work in *Harmony & Voice Leading;* this is a completely self-contained and self-sufficient text.

In most theory programs, instruction in harmony or counterpoint usually follows a review of fundamentals: scales, key signatures, intervals, and so forth. This initial phase can pose difficult problems for instructors. Students vary

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widely—even wildly—in the quality of their previous training. And even those with a reasonably secure grasp of the fundamentals seldom understand the significance of the material they have learned by rote. The first three units of *Harmony & Voice Leading* attempt to deal with these problems. They offer both a review of the fundamental materials and a glimpse—a first glimpse for most students—of their significance for musical structure. Thus, these opening units attempt to provide both a practical and a conceptual basis for the students' later work. For students deficient in their knowledge of fundamentals, we have provided a large number of written drills in the accompanying workbooks, as well as a smaller group in the text itself. Better prepared students will not need to devote much time to these drills, but they will profit from reading through the first three units and from classroom discussion of their contents.

The length of time needed to work through the book will vary, depending on the students' preparation, the number of class hours devoted to harmony, and the thoroughness of the course. We have tried to treat the subject as comprehensively as possible, knowing that different teachers may have very different ideas about which aspects of the study to emphasize. Some may choose to skim over certain units or sections within units, while others may devote a fair amount of time to those very units or sections. We hope that our comprehensive approach will give teachers the possibility of designing a course that best fits their students' needs. We know that some schools that have adopted the book go through it in three semesters and that others take as long as three years (together, of course, with other aspects of music, notably counterpoint). Most schools seem to accommodate it within a two-year theory sequence. The text and the two workbooks contain far more exercise material than could be covered in any single course. Instructors can thus choose the number and type of exercises that best meet the needs of their particular class. The remaining exercises will provide valuable material for classroom demonstration, exams, and review.

The order in which important materials and procedures are presented differs from that found in any other text. After a discussion of chord vocabulary, chord construction, and voice leading, the fundamental harmonic relationship between tonic and dominant is introduced, and the discussion then proceeds quickly to the most frequent linear expansions of tonic harmony. Confining students' work in these initial stages to a single harmonic relationship and to a number of closely related contrapuntal ones makes it much easier for them to *hear* what they are doing than if they are confronted immediately with seven root-position chords, each with a different sound and function. In subsequent units, students learn new usages a few at a time in a way that relates to and expands on the techniques they have already mastered. This order of presentation also makes it possible to show examples from the literature at a much earlier stage than in other approaches—and without including usages that students have not yet learned. Thus, they develop their ability to hear in a logical and orderly fashion, and they can begin their analysis of music of the highest quality much sooner than in other approaches. The book's order of presentation also makes it possible to pursue a number of fundamental concepts, such as tonic-dominant relationship, voice exchange, and 5-6 technique, by starting with their simplest manifestations and gradually revealing more complex developments and ramifications. By relating new

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material to large inclusive ideas, rather than simply piling rule upon rule, we hope to help students to begin thinking about music in productive ways that will benefit their analysis, writing, and performing.

Although *Harmony & Voice Leading* probably covers more material than any comparable text, it does not require an inordinate amount of time to complete. Nonetheless, this book offers no shortcuts. There are no shortcuts in learning music theory—especially in the development of writing skills. If twenty-first-century students wonder why they need to master such skills—why they need to take the time to learn a musical language spoken by composers of the past—they can be reminded that they are learning to form the musical equivalents of simple sentences and paragraphs. The purpose is not to learn to write "like" Mozart or Brahms, but to understand the language the great composers spoke with such matchless eloquence, the language that embodies some of the greatest achievements of the human spirit.

In the initial years of the twenty-first century, no one can minimize the importance of a thorough study of twentieth-century music. But we believe that to combine in a single text an intensive study of tonal harmony with an introduction to twentieth-century techniques would fail to do justice to either subject. For one thing, some of the simplest and most fundamental principles of earlier music—the functioning and even identity of intervals, for example—become radically altered in twentieth-century usage, so that it is impossible to proceed directly from one kind of music to the other. And the twentieth century has seen the development of compositional styles that sometimes differ from one another so profoundly as to amount to different languages. To deal adequately with this disparate and often complex material requires a separate text.

Many readers will realize that this book reflects the theoretical and analytic approach of Heinrich Schenker, an approach many musicians recognize as embodying unique and profound insights into tonal music. *Harmony & Voice Leading* is not a text in Schenkerian analysis—no knowledge of it is presupposed for either instructor or student—but the book will provide a valuable preparation for the later study of Schenkerian analysis. We believe that a solid foundation in harmony and voice leading is an indispensable prerequisite for learning Schenker's approach; without it, students have no secure basis for the analytic judgments they are called upon to make.

The Fifth Edition features MindTap, which offers several challenging and interesting features, including playable musical examples, flashcards, ReadSpeaker, and opportunities for instructors to add their own teaching materials to the learning path.

Students are now able to use their computers as an adjunct to the text and may listen to examples while reading the explanations and studying the scores.

Students may access MindTap using a passcode either bundled with their text or purchased online at www.cengagebrain.com.

Your MindTap for *Harmony & Voice Leading,* Fifth Edition, includes:

- The **eBook** for *Harmony & Voice Leading*, Fifth Edition, including the narrative, examples, and exercises as well as the appendices.
- All the **audio examples**, as part of the eBook.

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- **Guided exercises**, which show in stages the solution for one exercise from the core book's Units 7–16 and 18–33.
- All **workbook exercises** in PDF format.

Finally, we have developed for instructors a series of guidelines that highlight the primary topics of each unit; we hope the suggested strategies will be of use in developing class presentations.

Carl Schachter
Allen Cadwallader

Acknowledgments

We are grateful to several individuals who have helped us bring the Fifth Edition to fruition. Karen Bottge offered many fine suggestions for the new edition of the workbooks and applied her keen editorial skills in proofreading the manuscript and page proofs. We also express our sincere gratitude to Sue Gleason Wade, our first editor at Cengage, for her frequent support and consultation, sometimes given on a daily basis. Revising a book of this scope is no easy task, and Sue graciously shared her keen editorial skills on every aspect of the project, making our work easier and more enjoyable.

We are grateful to the following reviewers of the Fifth Edition: Matthew Bribitzer-Stull, University of Minnesota, Twin Cities; Stephen Emmons, Angelo State University; Ellie Hisama, Columbia University; Timothy Howard, California State University, Northridge; Jennifer Iverson, University of Iowa; Kyle Jenkins, Georgia State University; Andrey Kasparov, Old Dominion University; Francis Massinon, Austin Peay State University; Edward Smaldone, City University of New York, Queens College; and Heather Worden, Broome Community College.

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PART I

The Primary Materials and Procedures

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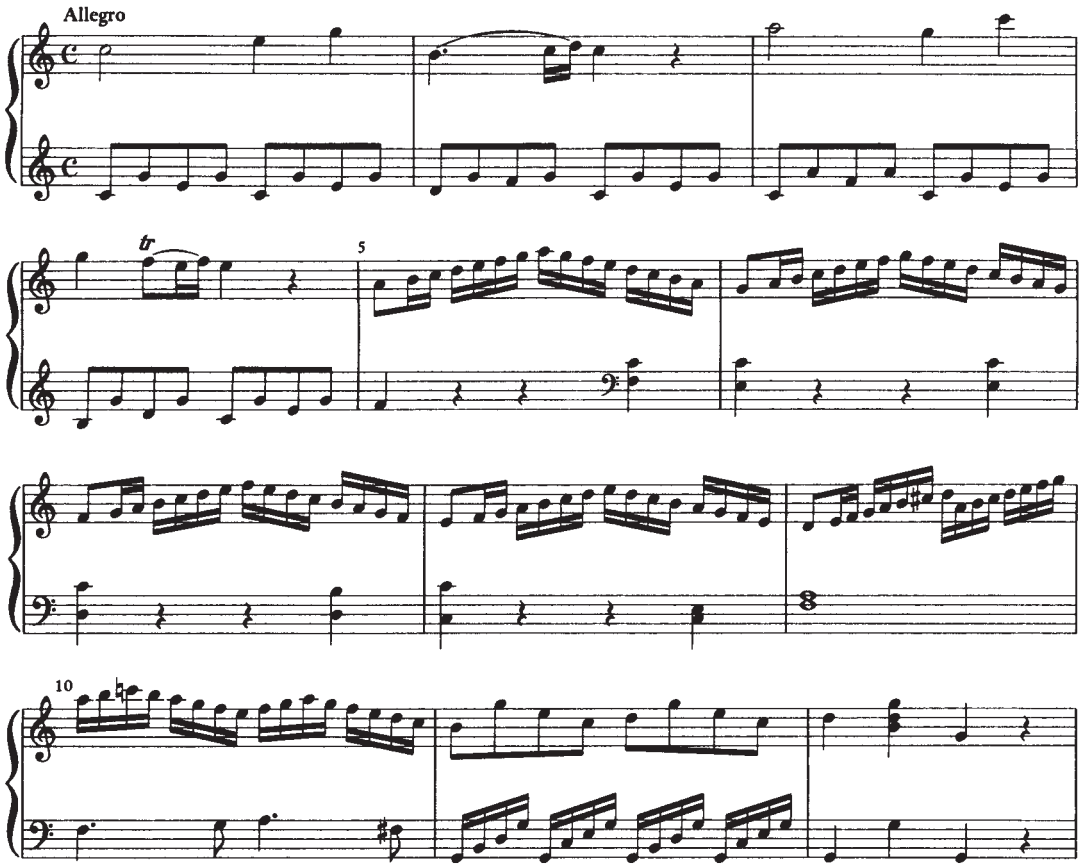
UNIT

1 Key, Scales, and Modes

1-1 *Mozart, Piano Sonata, K. 545, I*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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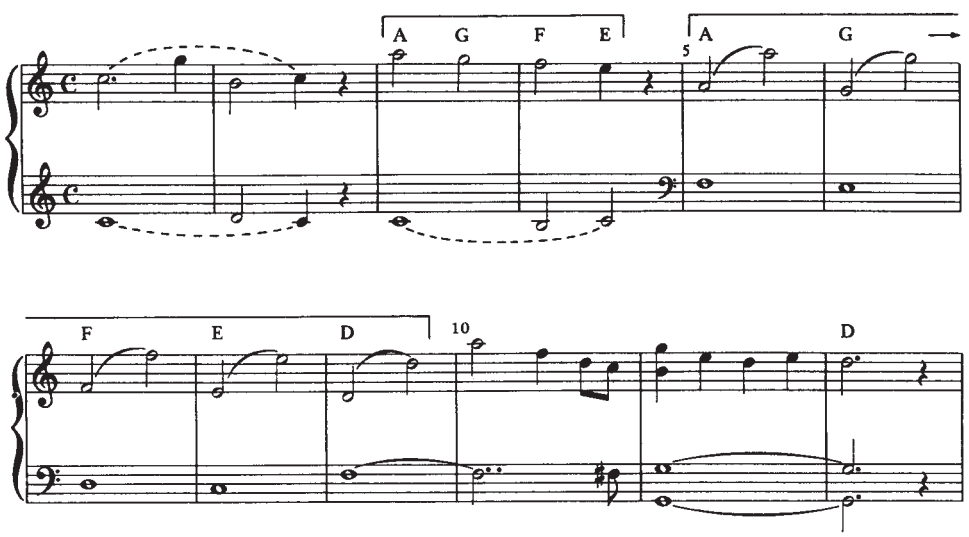
Tonal Relationships; Major Keys

1. *Key.* We'll begin by considering the opening of Mozart's familiar Sonata in C major, K. 545 (Example 1-1). The piece obviously contains many tones besides C. Why, then, do we call it a "sonata in C major," or say that "it's written in the key of C"? Most people would answer that music is "in a key" when its tones relate to one central tone—the one that has the same name as the key—and when the functions of the other tones result from the ways in which they relate to the central one. According to this answer, the Mozart Sonata is in C because C is the central tone; we hear the other tones as subordinate to C. (Why it's not simply in C but in C *major,* we'll discuss presently.)

This explanation of key is certainly correct as far as it goes, but it tells us little about the *kinds of relationships* that exist between the central tone and the others. (A definition of chess as "a game played on a board by two people, each with sixteen pieces" would be correct in the same way. But it wouldn't help anyone to learn to play chess.) Let's now look more closely at these relationships.

2. *The Tonic.* We call the central tone of a key the *tonic.* In Example 1-2, which shows the most prominent tones of the Mozart, both hands begin on the tonic, C. The left hand stays around C for most of bars 1–4 and moves on to C as the lowest point in the downward motion F-E-D-C, bars 5–8. The right-hand part does not return to C after the opening bars, but its subsequent course points to C as its eventual goal. In bars 3 and 4, the melody moves from the high A down as far as E. The sixteenth-note scales that follow repeat, in varied form, the melodic line A-G-F-E but then carry it one step further, to D (bar 9). In listening to the melody, we are led to expect it to finish on C, to complete the circle by ending where it began. But it doesn't—not yet, at any rate. Instead the D is taken up again in bars 11 and 12; the first part of the piece closes without having arrived at its melodic goal.

1-2 *Example 1-1's most prominent tones*



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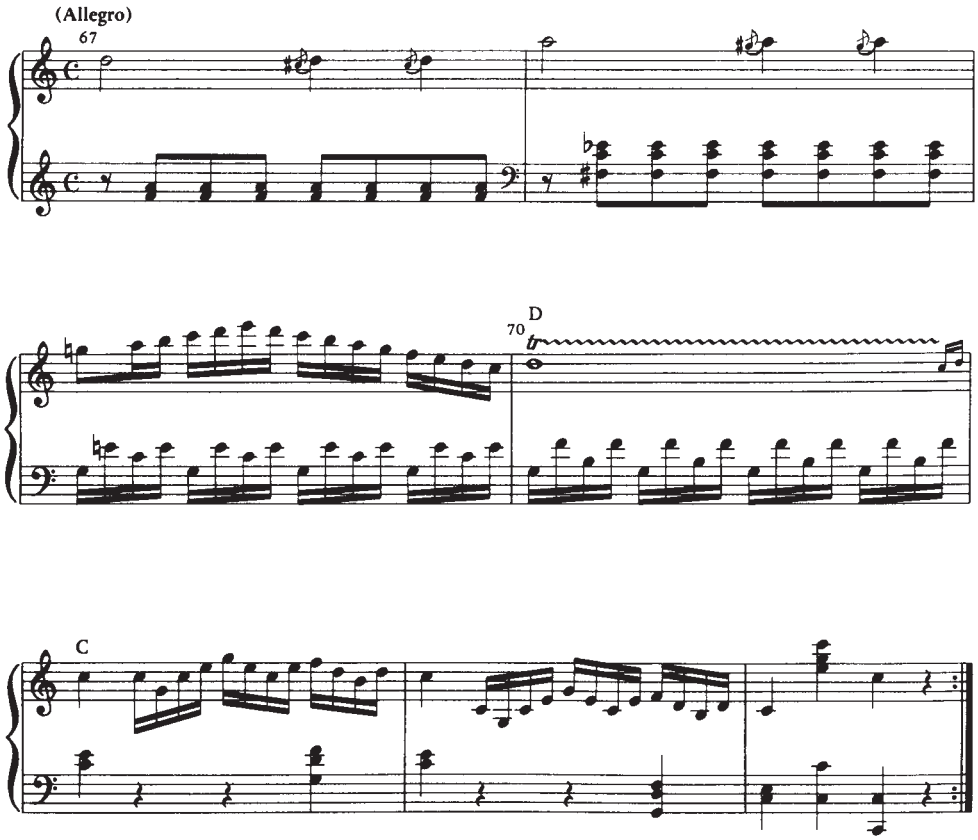
And, in fact, C's function as a goal is not fulfilled until almost the end of the piece (Example 1-3). Generalizing from the Mozart, we can state that the *tonic*, the central tone of the key, forms *the point of departure* from which the other tones move and the *goal* to which they are directed. As in bars 1–12, the music does not always reach its goal at the moment we expect it to; by ending a part of the piece in a state of suspense, a composer can enhance the feeling of finality at the very end.

1-3 *Mozart, Piano Sonata, K. 545, I*



3. *Scales.* In Example 1-1, Mozart uses only some of the tones that the piano keyboard can produce. Almost all the sounds in these twelve bars result from playing the white keys; of the nearly 200 notes, the only exceptions are two C♯'s (bar 9) and one F♯ (bar 10). And if we were to look at other pieces in C major, we would find similar tonal materials. For the most part the pieces would contain the tones C, D, E, F, G, A, and B, and any other tones would play a subordinate role.

When all the tones that belong to a key occur in consecutive order, each one next to those closest to it in pitch, the result is a *scale* (Latin *scala,* "steps, staircase, or ladder"). In bars 5–8 of the Mozart, C-major scales occur beginning on A, G, F, and E. The basic form of a scale, however, is the one that

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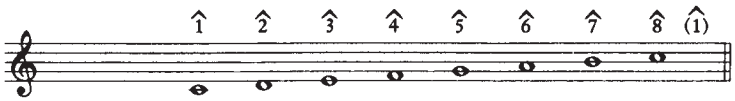
begins and ends on the tonic. A scale in this basic form can be thought of as a symbol of, or abstraction from, the natural flow of music—at least of music that is written "in a key." For such a scale begins on the tonic as its point of departure and concludes on the tonic as its goal (Example 1-4).

1-4 *scale degrees in C*[1]

The capped numbers above the notes in Example 1-4 indicate *scale degrees* (sometimes called *scale steps*) and will be used for this purpose throughout the book. In addition to numbers, the following traditional names are used so often for the scale degrees that you should memorize them:

1̂. Tonic
2̂. Supertonic
3̂. Mediant
4̂. Subdominant
5̂. Dominant
6̂. Submediant
7̂. Leading tone

4. *The Octave.* The beginning and ending tones of Example 1-4 are both C, but they are not one and the same tone. The last tone sounds considerably "higher" in pitch than the first. Yet, despite this marked difference in register, the sounds of the two C's are very similar; that's why we call them both by the same letter name. When two tones are separated by an *octave* (Latin *octava,* "eighth") they are equivalents—that is, they are variants of the same sound. This phenomenon of *octave equivalence* is one of the most important aspects of pitch organization in music. In technical writing about music, it is frequently helpful to indicate the register in which a tone occurs. Example 1-5 shows how this can be done.

[1]Throughout the examples, the exercises, and the workbook, capital letters are used for major keys and lowercase letters are used for minor keys. Thus, G and g indicate the keys of G major and G minor, respectively. (Names of individual pitches, in contrast, are always indicated with a capital letter.)

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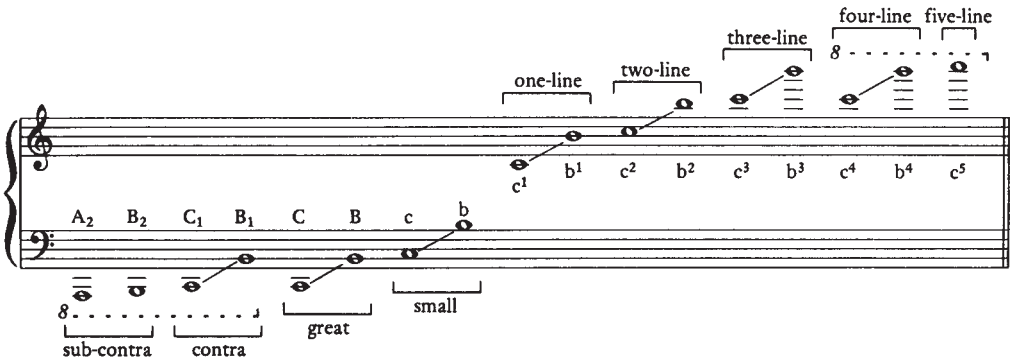
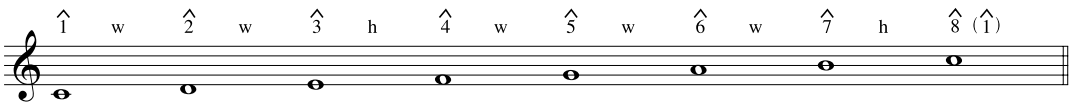
1-5 *registers*



5. *Major Scales; Whole Steps and Half Steps.* If we play a white-key scale from C to C on the piano, we can easily see that there is a black key between most of the adjacent white keys—between C and D, D and E, F and G, and so on. However, no black key appears between E and F or between B and C. The distance between one tone of a scale and the next is usually called a *step*. The scale from C to C contains two kinds of steps: small ones between E and F and between B and C, larger ones between the other adjacent tones. The small ones occur where there is no intervening black key; the larger ones occur where there is a black key. (See Example 1-6.)

We call the smaller steps *half steps* (or *semitones*) and the larger ones *whole steps* (or *whole tones*). The half steps occur between $\hat{3}$ and $\hat{4}$ and between $\hat{7}$ and $\hat{8}$; all the others are whole steps.

1-6 *major scale*



A scale with half steps and whole steps arranged in this order is called a *major scale*. Only the major scale has half steps between $\hat{3}$ and $\hat{4}$ and $\hat{7}$ and $\hat{8}$. Any piece whose tones form the same pattern of whole and half steps, starting with the tonic, is a piece in a major key.

The major scale is one kind of *diatonic scale*. All diatonic scales contain five whole steps and two half steps within the octave, but each of the different types of diatonic scale has the half steps in different places. From the time of the ancient Greeks through the nineteenth century, most Western art music was based on diatonic scales. Other kinds of scales are used in some Western folk music, music of non-Western cultures, and much twentieth-century music.

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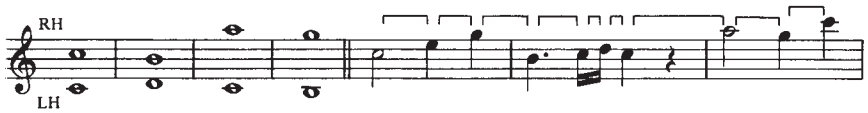
6. *Intervals.* Example l-7a shows the tones that begin each of the first four bars of the Mozart Sonata in both the left-hand and the right-hand parts. We call the relationship between two tones heard in a single context an *interval.* Intervals formed by simultaneously sounding tones are called *vertical* (because they are written one above the other). Intervals formed by tones that sound one after the other are called *horizontal* (Example l-7b). The terms *harmonic* and *melodic* are often used instead of vertical and horizontal.

1-7 *(a) vertical intervals* *(b) horizontal intervals*

We can describe intervals, whether horizontal or vertical, by ordinal numbers arrived at by counting letter names up from the lower to the higher tone, or down from the higher to the lower. Thus C up to G is a *5th,* because it spans five letter names, C, D, E, F, and G. From B to C is a *2nd,* because it spans two letter names. From G to the next G above is an *octave* (not an "eighth," though it has the same meaning as "octave"). Finding the numerical size of an interval does not identify it completely. For example, B-C and C-D are both 2nds. Yet C-D (a whole step) is larger than B-C (a half step). Later on we will specify intervals more exactly; for now, it is enough to be able to determine the numerical size.

7. *Chords; Triads.* Compare the first and last bars of the Mozart (Examples 1-1 and 1-3). Both bars contain the same three tones (with octave duplications); the tones are C, E, and G ($\hat{1}$, $\hat{3}$, and $\hat{5}$). These three tones are very closely associated, the basis of their association being membership in the same chord. A *chord* is a group of three or more tones that make sense when played or sung all at the same time. In essence a chord is a vertical unit; the simplest and most basic way to present it is as a *block chord,* with all the tones sounding at once (as in the last bar of the Mozart, second beat). But a composer can also present the tones one after the other, as Mozart does in bar 1. Because our ear and memory can group the tones into a unit, we still hear a chord. But not a block chord; it is a *broken chord* or *arpeggio.*

The chord C-E-G contains three tones; the upper two form the intervals of a *5th* and a *3rd* from C, the lowest. A three-tone chord formed in this way is a *triad.* The triad is the basic chord in Western music from the fifteenth through the nineteenth centuries. All other chords are derived from it. In every key, the triad $\hat{1}$-$\hat{3}$-$\hat{5}$ has the tonic as its lowest tone. The lowest tone, called the *root,* functions as the basis of the chord, so we call this triad the *tonic triad* or *tonic chord.*

8. *Active Tones; Stable Tones.* Among the many mysterious powers of music is its ability to suggest *motion.* In listening to a piece of music, we do not hear a succession of static tones; rather, we hear tonal motions, one tone moving to another. In part, this impression comes from rhythm, for musical rhythm has

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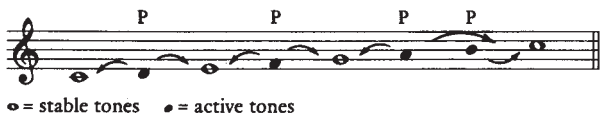
close relationships to some of the physical activities—walking, for instance—that form our primary experience of motion. But the impression of motion also arises from tonal organization. We have already seen that $\hat{1}$, the tonic, functions as the goal to which the other tones are directed. (And musical motion is essentially *directed* motion, motion to a goal.) We might say that all the other scale degrees, in different ways, are *active* in the direction of $\hat{1}$, that they tend to move to this stable, central tone. However, $\hat{3}$ and $\hat{5}$ can also function as stable tones, though they are less stable than $\hat{1}$. They can serve as goals to which other, still more active tones can move because they are members of the tonic triad and thus closely associated with $\hat{1}$. Motion to $\hat{3}$ or $\hat{5}$ will not have the same finality as motion to $\hat{1}$.

Many melodies begin on $\hat{3}$ or $\hat{5}$ rather than on $\hat{1}$. If these melodies are harmonized, the tonic will almost always appear in the lowest part. Thus, the music will still move from a tonic at the beginning to a tonic as the final goal even if $\hat{1}$ does not serve as the initial *melodic* tone.

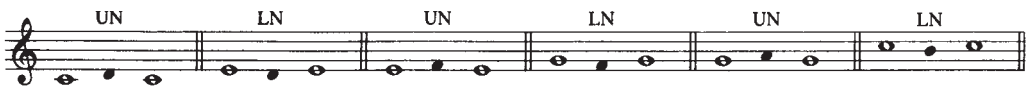
9. Passing Tones; Neighboring Tones. Example 1-8 contains a diagram of the C-major scale. The stable tones, $\hat{1}$, $\hat{3}$, $\hat{5}$, and $\hat{8}$, are shown as whole notes; the more active tones are written with black noteheads.

1-8 *stable and active tones*



As the diagram indicates, the active tones lead from one stable tone to another: up from $\hat{1}$ to $\hat{3}$, $\hat{3}$ to $\hat{5}$, and $\hat{5}$ to $\hat{8}$; down in the reverse order. A tone that forms a stepwise connection between two stable tones is called a *passing tone* (abbreviation, P); the term clearly conveys the transitional character of these tones. We can readily hear this transitional character if we play the scale in the right hand while holding the tonic triad in the left. Note that a single passing tone connects $\hat{1}$ with $\hat{3}$ and $\hat{3}$ with $\hat{5}$, but that two passing tones are needed to connect $\hat{5}$ with $\hat{8}$.

Motion along the scale—that is, motion with passing tones—is by no means the only type of melodic progression, though it is the basic type. Example 1-9 shows another important possibility. Here the active tones decorate a single stable tone rather than move from one to another. A tone that moves by step away from and back to a stable tone is called a *neighboring tone,* or simply *neighbor* (N). Sometimes it is helpful to specify the direction of a neighboring tone by referring to it as an upper or a lower neighbor (UN or LN).

1-9 *neighboring tones*

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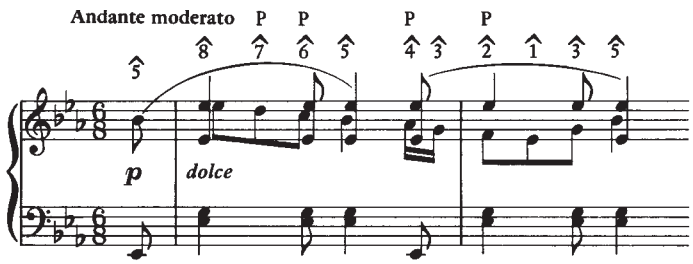
In Unit 5 we will examine passing and neighboring tones in greater detail. For now, look at the two excerpts of Example 1-10, which will introduce how these tones work in a musical composition. In the Brahms, the accompaniment sustains $\hat{1}$ and $\hat{3}$; with the melody's prominent $\hat{5}$ (opening upbeat and long notes in bars 1 and 2), a complete tonic chord seems to form the background of the whole line. Against this background, two segments of the descending E♭ scale create melodic motion: the first one leads from $\hat{8}$ down to $\hat{5}$ (bar 1) and the second from $\hat{5}$ to $\hat{1}$ (bars 1–2). In listening to the first segment, we experience no stability until the line comes to rest on $\hat{5}$; the transitional, "passing" character of $\hat{7}$ and $\hat{6}$ is very evident. In the second segment, $\hat{4}$ and $\hat{2}$ receive more rhythmic emphasis than $\hat{3}$ and $\hat{1}$, but the dissonances they form against the "background" tonic direct them strongly toward the more stable tones.

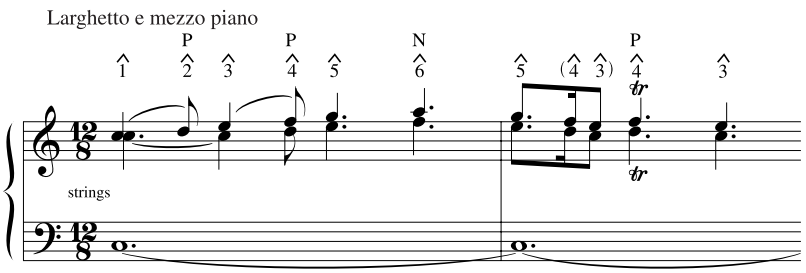
In the *Messiah* excerpt, the scalar motion leads from $\hat{1}$ up to $\hat{5}$, which is embellished with its upper neighbor, $\hat{6}$. This upward motion is balanced by a line that moves down, but only as far as $\hat{3}$, not $\hat{1}$. Note that bar 2 contains the motion $\hat{5}$-$\hat{4}$-$\hat{3}$ on two different levels. The main note of the first beat, G, moves on to F and E on beats 2 and 3, but a smaller version of the same line fills out beat 1. In music, as in language, we perceive connections between elements that are not right next to one another. We hear $\hat{5}$ in the Handel moving to the $\hat{4}$ of beat 2 despite the two notes in between, just as we connect the subject and verb of a sentence even if they are separated by many words.

1-10

(a) Brahms, Intermezzo, Op. 117/I



(b) Handel, Pastoral Symphony *(from Messiah)*



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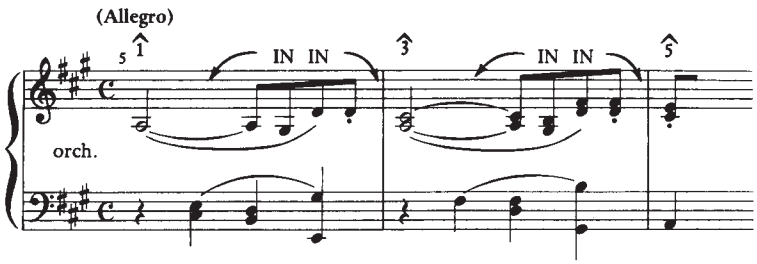
10. *Half Steps as Melodic Intensifiers.* When an active tone, P or N, lies a half step from the stable tone to which it is attracted, its motion to the goal tone has a particularly intense character. The closeness in pitch between the two tones draws the active tone into the gravitational field, as it were, of the stable one and enhances the attractional power of the latter. In major, therefore, $\hat{4}$ tends to move more readily to $\hat{3}$ than to $\hat{5}$, the other possible goal tone. And $\hat{7}$ is very strongly attracted to $\hat{8}$; in fact, the term *leading tone* refers to the active way in which $\hat{7}$ "leads into" $\hat{8}$. The half steps are very well situated in major; the instability of $\hat{7}$ and $\hat{4}$ helps to strengthen $\hat{1}$ and $\hat{3}$ and leads to a clear definition of the key. Play the right-hand part of Example 1-1, extending the duration of B (bar 2) and F (bar 4). Notice how urgently the ear demands a continuation to C and E, respectively.

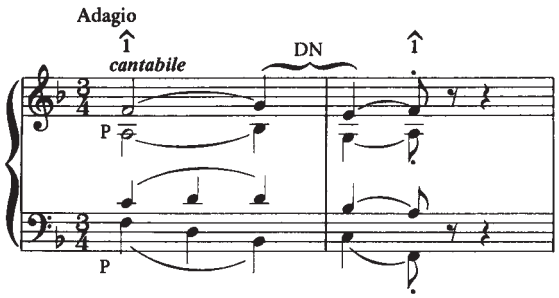
11. *Incomplete Neighbors; Double Neighbors.* Sometimes a neighboring tone will connect with only one statement of the stable tone rather than two; the neighboring tone will move either to the stable tone or away from it, but not both. In the melodic fragment shown in Example 1-11, the stable tones are A, C♯, and E ($\hat{1}$-$\hat{3}$-$\hat{5}$ of A major). The G♯, D, B, and F♯ are active tones that precede or follow (but not both) one of the main tones. We use the term *incomplete neighbor* (IN) to denote neighboring tones connected with one rather than two main tones.

1-11 *Mozart, Piano Concerto, K. 488, I*



Also derived from the neighbor is a four-note group consisting of a stable tone, both the upper and the lower neighbor (in either order), and a return to the stable tone. Two neighbors occurring together are called a *double neighbor* (DN), as in Example 1-12 (we will examine double neighbors again in Unit 5).

1-12 *Haydn, Symphony No. 98, II*



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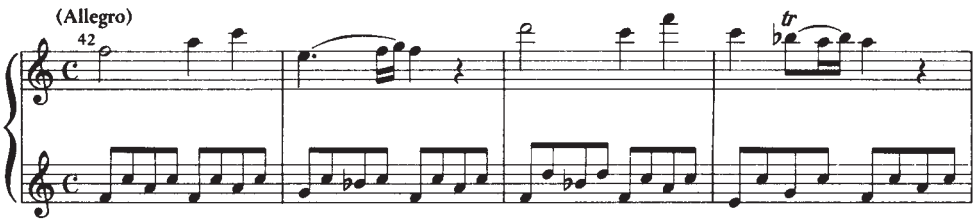
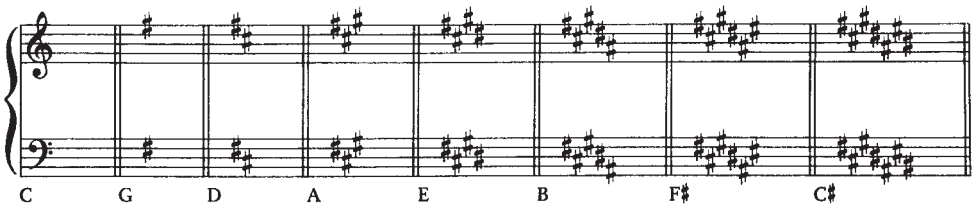
12. *Transposition; Key Signatures.* In bar 42 of the Mozart movement with which we began this unit, the opening idea returns; the technical name for such a return in a sonata movement is *recapitulation*. Usually a recapitulation is in the same key as the beginning of the movement, but most exceptionally, Mozart does not begin his recapitulation in C. Instead of C, F functions as the central tone; the music has moved to F major. Example 1-13 quotes the opening few bars of this F-major recapitulation; observe that every time a B occurs, it is modified by a flat. A moment's reflection (and, perhaps, a glance at the keyboard) will show why the B♭ is needed. Without it, there would be a whole step between $\hat{3}$ and $\hat{4}$; the music would no longer be in F major.

1-13 *Mozart, Piano Sonata, K. 545, I*

Putting a piece (or section) of music into another key is called *transposing* it. If we transpose a piece from C to any other major key, we have to use flats or sharps to preserve the half steps between $\hat{3}$ and $\hat{4}$, and $\hat{7}$ and $\hat{8}$. These sharps or flats are gathered together into a *key signature* that occurs at the beginning of each line of music. Sometimes a change of key within a piece is accompanied by a new key signature, but very often, as in the Mozart, the necessary flats, sharps, naturals, and so on, occur in the body of the music as *accidentals*, like the flats before the B's in Example 1-13.

Example 1-14 shows the signatures of the fifteen major keys. Note that the keys with sharps move *up* in 5ths; the tonic of each new key lies a 5th above the preceding tonic. Also note that the keys with flats do just the opposite—they move *down* in 5ths.

1-14 *major key signatures*

(a)



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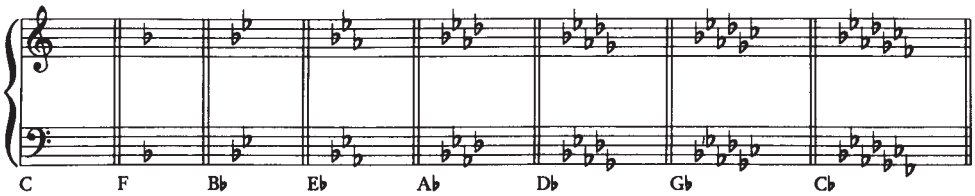
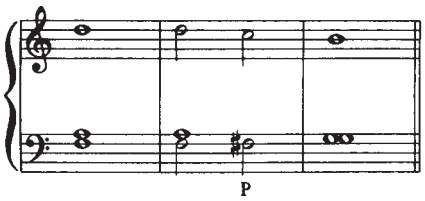
(b)



If you have not already done so, memorize these key signatures *immediately.* Not doing so will cause you unnecessary difficulties in studying music theory. Note that memorizing them means being able to recall them *instantly* and *automatically.*

13. *Chromaticism; Chromatic Half Steps.* In the recapitulation of the Mozart, the use of an accidental—B♭—results from a change of key to F major. However, accidentals do not always signal a change of key; in fact, they usually do not. Very often they occur when a composer wishes to emphasize a scale degree by means of the melodically intense half-step progression. In Example 1-1, the F♯ in bar 10 (left hand, last tone) intensifies the G that follows. Example 1-15 shows the specific function of this F♯ by leaving out some of the less important tones and simplifying the use of registers. It reveals that the F♯ leads from the F♮ of bars 9 and 10 to the G of bar 11; it functions, therefore, as a kind of passing tone.

1-15 *chromatic passing tone*



The use of tones that normally do not belong to a key is called *chromaticism;* Mozart's F♯, therefore, is a *chromatic passing tone.* Chromatic elements embellish a basically diatonic substructure; the term *chromatic* (Greek *chroma,* "color") clearly conveys the decorative character of these tones. As Example 1-15 indicates, the use of chromatic tones creates the possibility for a new kind of half step, the *chromatic half step.* The half step F♮-F♯ involves two tones with the same letter name, whereas the *diatonic half step* (for example, B-C) involves two tones with adjacent letter names. Chromatic passing tones divide a whole step into a chromatic half step plus a diatonic one (F♮-F♯-G). The chromatic half step normally comes first; the chromatic passing tone uses the same letter name as the preceding diatonic tone. Thus, a chromatic passing tone from A down to G would be A♭; the melodic progression, therefore, would be A♮-A♭-G. Chromaticism sometimes involves the use of double sharps and double flats. A chromatic passing tone between F♯ and G♯, for example, would be F𝄪; one between B♭ and A♭ would be B𝄫.

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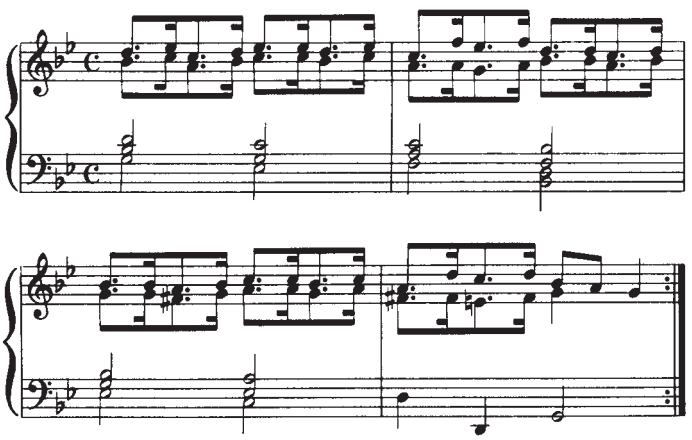
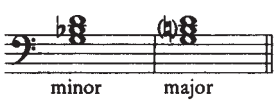
Not every chromatic tone produces a chromatic half step. The C♯'s in bar 9 of Example 1-1 do not. They intensify the motion to D through the half-step progression, but they lie a whole step above the preceding tone, B.

14. *Enharmonics.* On the piano, we depress the same key to produce C♯ and D♭, A and B𝄫, and so on. To facilitate playing in all keys and to make possible an extensive use of chromaticism, keyboard instruments are tuned to the *equally tempered scale,* a scale that divides the octave into twelve equal semitones. Tempered tuning eliminates the minute differences in pitch between, say, G♯ and A♭ or B♯ and C♮. Two tones with different names but the same pitch (or, in nontempered tuning, almost the same pitch) are called *enharmonic equivalents*.

Minor Keys; Modes; Tonality

15. *Minor Keys.* Example 1-16 is the beginning of a variation movement by Handel. The key signature contains two flats, but this composition is clearly not in B♭ major. The lowest part begins and ends on G; the highest begins on D and ends on G; the opening chord contains the tones G, B♭, and D. All of this points to G as the tonic and to G-B♭-D as the tonic triad. And, in fact, the piece is in the key of G, but G *minor,* not G major.

1-16 *Handel, Passacaglia* *(from Harpsichord Suite No. 7)*

Why this piece is in minor becomes very clear if we compare its tonic triad with the tonic triad of G major (Example 1-17).

1-17

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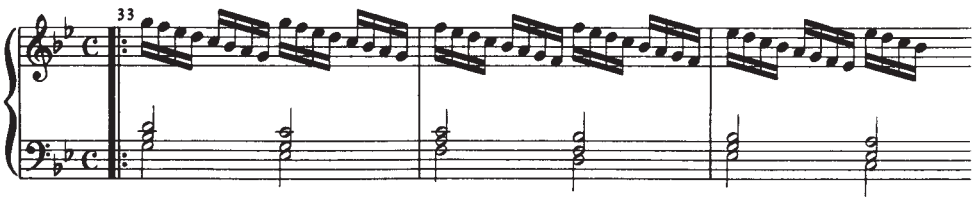
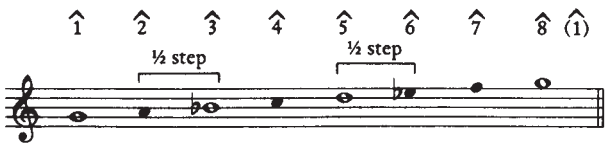
$\hat{1}$ and $\hat{5}$ are the same in both chords; only $\hat{3}$ varies (the B♭ is closer to G than is the B♮); the 3rd G-B♭, therefore, is smaller than the 3rd G-B♮. *Minor* and *major* simply mean smaller and larger. A minor key is a key containing a small or minor 3rd between $\hat{1}$ and $\hat{3}$; a major key is a key containing a large or major 3rd between $\hat{1}$ and $\hat{3}$. There are other significant differences between major and minor, but the contrast in sound between the two kinds of 3rds marks the fundamental distinction between them.

16. *The Natural Form of Minor.* Example l-18a shows the beginning of a later variation from the Handel Passacaglia. The right-hand part contains descending scales that follow the key signature exactly; no chromatic alterations occur. Example 1-18b is a diagram of the scale Handel uses, showing its stable and active tones, as well as the location of its two half steps. The scale in this diagram is the *natural* (or *pure*) *minor scale.*

1-18

(a) Handel, Passacaglia

(b) natural minor scale



The contrast with major is striking. The minor 3rd between $\hat{1}$ and $\hat{3}$ lends its characteristic color to the scale. The half steps between $\hat{2}$ and $\hat{3}$, and $\hat{5}$ and $\hat{6}$, create an intensity in the motions from $\hat{2}$ to $\hat{3}$ and from $\hat{6}$ to $\hat{5}$ quite different from the corresponding progressions in major. Finally—and very significantly—the whole step between $\hat{7}$ and $\hat{8}$ fails to lead into the tonic with the same conviction as in major. For this reason, the term *leading tone* is not used to indicate the 7th degree of the minor scale in its natural form. We use the term *subtonic* instead.

When the minor scale descends (as in Example l-18a), the lack of a leading tone does not present a problem, for $\hat{7}$ leads away from $\hat{8}$ rather than toward it. But when the scale ascends, the whole step between subtonic and tonic can constitute a real defect because $\hat{8}$ does not sound like a goal; its power to act as the central tone of the key is impaired. For this reason, $\hat{7}$ in minor must be raised to create the necessary half step whenever it moves to $\hat{8}$ as a goal, or whenever the composer wishes to suggest such a motion, even if it is not immediately fulfilled. That is why Handel uses F♯ instead of F♮ in bars 3 and 4 of Example 1-16.

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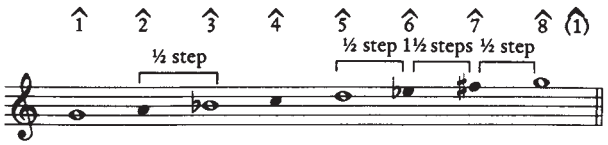
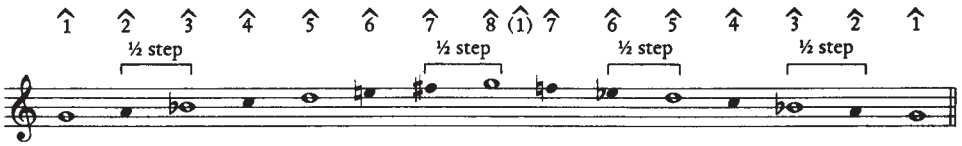
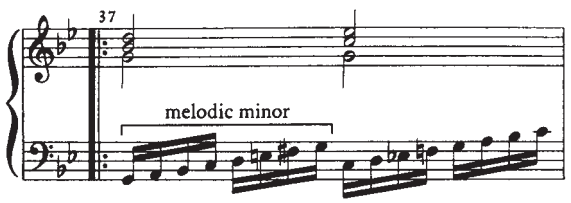
17. *The Harmonic Form of Minor.* Raising the 7th degree but leaving the others unaltered produces the scale shown in Example 1-19. This scale is called the *harmonic minor,* for many important chord progressions use the tones it contains. However, one characteristic of this scale makes it unsuitable for normal melodic progression. The interval between $\hat{6}$ and $\hat{7}$ is larger than a whole step; it is equivalent, in fact, to a step and a half. This larger interval creates a gap in the continuity of the scale that can destroy melodic flow. As Example 1-19 shows, the harmonic minor has three half steps: between $\hat{2}$ and $\hat{3}$, $\hat{5}$ and $\hat{6}$, and $\hat{7}$ and $\hat{8}$. In the keys of G♯ minor, D♯ minor, and A♯ minor, raising $\hat{7}$ requires a double sharp; in A♯ minor, for example, the leading tone is G𝄪.

1-19 *harmonic minor scale*

18. *The Melodic Form of Minor.* If we raise $\hat{6}$ as well as $\hat{7}$, we gain a leading tone, but without creating an awkwardly large interval between $\hat{6}$ and $\hat{7}$. In a melodic line in minor, therefore, if $\hat{6}$ comes before the leading tone (raised $\hat{7}$), it too will be raised. Note, for example, the E♮ in bar 4 of Example 1-16, used instead of the E♭ called for by the key signature.

The minor scale that raises $\hat{6}$ and $\hat{7}$ ascending is called the *melodic minor scale* (Example 1-20a). Example 1-20b, still from the Handel Passacaglia, illustrates its use in a composition. Note that it contains two half steps, between $\hat{2}$ and $\hat{3}$, and $\hat{7}$ and $\hat{8}$.

1-20 *(a) melodic minor scale*

(b) Handel, Passacaglia

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Because $\hat{6}$ and $\hat{7}$ are raised so they lead convincingly to $\hat{8}$, the raised forms of these degrees will normally occur only when the scale goes up. The descending form of the melodic minor, therefore, reverts to the natural form, with the accidentals for $\hat{6}$ and $\hat{7}$ canceled.

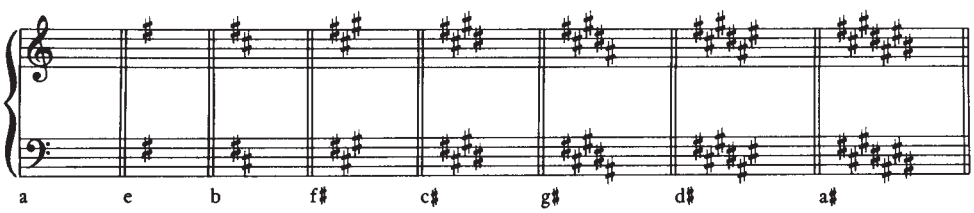
19. *The Three Forms of Minor.* Beginning students sometimes have the misconception that the three forms of minor constitute three independent and unrelated scales. Actually, the harmonic and melodic forms are variants of the natural minor scale. The fact that the key signature *always* corresponds to the natural minor indicates that this is the basic form of the scale.

Most compositions in minor will contain elements of all three forms of the scale. Some successions of chords will come from the natural form (Example 1-16, bars 1 and 2); others will come from the harmonic (Example 1-16, bars 3 and 4). Melodic lines that ascend $\hat{6}$-$\hat{7}$-$\hat{8}$ tend to use the ascending melodic scale; descending lines tend to use the descending melodic (or natural) form (Examples 1-18 and 1-20).

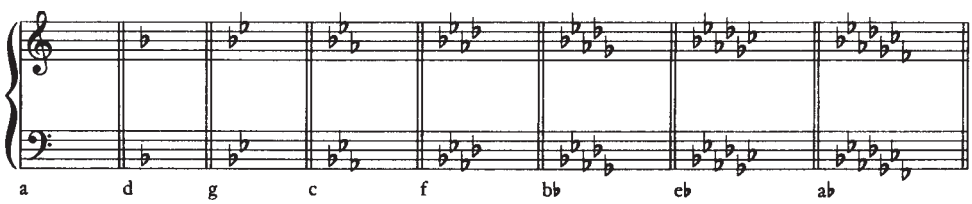
20. *Key Signatures in Minor.* Like C major, A minor has neither sharps nor flats. As we move up in 5ths from A, we must add one sharp each time to the key signature to preserve the correct pattern of whole steps and half steps. As we move down in 5ths, we add flats. Example 1-21 shows the signatures for the fifteen minor keys, which you should memorize.

1-21 *minor key signatures*

(a)



(b)



21. *Relative Major and Minor.* The terms *relative major* and *relative minor* are often used to denote a major key with the same signature as a given minor one, and vice versa. Thus, C major would be the relative major of A minor, and D minor would be the relative minor of F major. These terms sometimes confuse

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students, who might think that F major and D minor, for instance, are the same key. Nothing could be more misleading; F major and D minor have different tonics; therefore, they are different keys.

Knowing the relative major can help you learn the minor key signatures. Remember that the tonic of the minor key is $\hat{6}$ in the relative major. For example, the tonic of G♯ minor is $\hat{6}$ in B major; the key signature of G♯ minor, therefore, contains five sharps. Conversely, in minor the tonic of the relative major is $\hat{3}$. For example, in G minor, $\hat{3}$ is the tonic of the relative major—B♭ major.

22. *Parallel Major and Minor; Mixture.* Major and minor keys with different signatures but with the same tone as tonic are called *parallel*. G minor would be the parallel minor of G major. Actually, parallel major and minor keys are much more closely related than are relative majors and minors. In G minor, as in G major, tonal activity is directed to the same goal, to G. In many compositions, elements from major and minor occur in very close proximity; in such cases, we speak of a *mixture* of major and minor. Using raised $\hat{6}$ and $\hat{7}$ in minor constitutes one kind of mixture, for these tones are the same as the corresponding ones in the parallel major.

Strictly speaking, the parallel minor keys of D♭, G♭, and C♭ major would be D♭, G♭, and C♭ minor. But because these keys would require one, two, or three double flats in their signatures, they are never used except for brief passages without a change of key signature. Instead, the corresponding minor keys with sharp signatures—C♯, F♯, and B minor—will occur. Thus, in Chopin's Prelude in D♭ major, the extended middle section, which moves to the parallel minor, is written in C♯ minor, with a signature of four sharps. Similarly, the parallel major keys of G♯, D♯, and A♯ minor are written as A♭, E♭, and B♭ major.

23. *Modes; the Diatonic Order.* Writers on music often refer to major and minor as *modes*. If we build scales starting on each of the white keys of the piano as a tonic and use only white keys for the other tones, the result will be seven scales, each with a different pattern of five whole steps and two half steps within its octave. We will have created seven different tonal systems, for the different arrangement of whole and half steps creates a different tonal structure in each of these scales.

The seven "white-key" scales constitute segments of the *diatonic order,* the pattern of whole and half steps that has given rise to most of the tonal systems of Western music. Like major and minor, these segments are known as *modes*. The seven patterns are shown in Example 1-22, together with their traditional names. Some of these modes had great importance in music before the eighteenth century, but some did not. The Locrian mode was scarcely more than a theoretical possibility, and the Lydian, at least in polyphonic music, made such regular use of B♭ as to be indistinguishable from Ionian (or major). Much great music was composed in the Dorian, Phrygian, and Mixolydian systems, and to understand early music, you must certainly investigate the way the modes were used. General information appears in any standard history of music and in some counterpoint texts.

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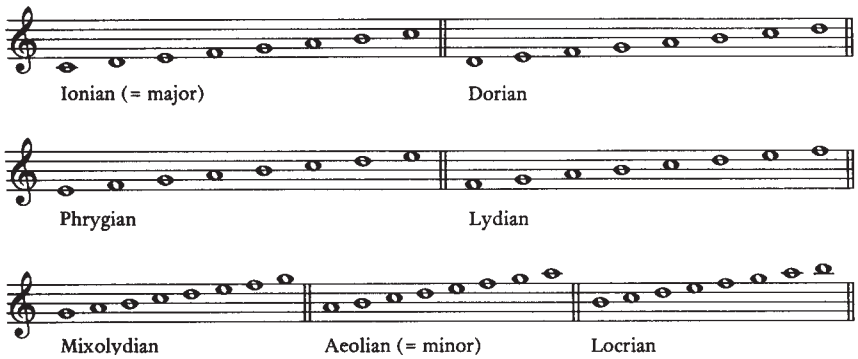
1-22 *seven diatonic modes*



In the music we are dealing with in this book—the music from the Baroque through the Romantic periods—there are only two modes of any importance: major and minor. In this music, elements from some of the other modes—especially Phrygian—will sometimes appear. But they do so, for the most part, in a larger context of major or minor.

24. Tonality. Many musicians and writers use the term *tonal* to describe any piece or type of music organized around a central tone. And the principle of organization would be called *tonality*. Under these broad definitions of *tonal* and *tonality*, many—indeed, most—kinds of music would be tonal: music in major and minor keys, modal music, much non-Western music, and a good deal of twentieth-century music. The presence of a tonal center is an important common feature of these different kinds of music. But how the other tones function with respect to the central tone may vary considerably. Since the music we will deal with in this book is based, for the most part, on major and minor, the term *major–minor tonality* is the most accurate, though it is fairly unwieldy. So, we will sometimes use the words *tonal* and *tonality* in a narrower sense as an abbreviated form of major–minor tonality.

25. The Contrast between Major and Minor. Many people feel that music in a major key is "happy" and that music in a minor key is "sad." Sophisticated musicians often question this association, believing that it is a purely arbitrary one based on nothing except, perhaps, habit. It is true that the emotional character of a piece depends on many factors in combination. Light and even comical pieces—some of Mendelssohn's scherzos, for instance—are in minor. And some very solemn pieces are in major, for example the "Dead March" in Handel's *Saul*. But it is a mistake to ignore the likelihood that choice of mode is one of the factors that determine the character of a piece. And sometimes it may be the most important factor.

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For one thing, the association of major or minor mode with emotion is a very old one; it goes back at least 400 years. Writing in 1558, Gioseffo Zarlino, the greatest theorist of the late Renaissance, remarks that melodies (and modes) featuring a major 3rd above the central tone sound cheerful and that those with a minor 3rd sound sad.[2] Any cultural tradition that has persisted for so long takes on a certain importance even if it is based on nothing more than custom. That the great composers of the eighteenth and nineteenth centuries believed in this association is evident to anyone who studies their songs and other music they composed to texts. And (as you will see in Unit 2) there is a strong possibility that the emotional connotations of major and minor may reflect more than habit or conditioning—that they may arise out of qualities inherent in tonal relationships.

EXERCISES

1. Be able to write from memory and to recite fluently the fifteen major key signatures in the order shown in Example 1-14.
2. Be able to write from memory and to recite fluently the fifteen major key signatures in the following order:

   C, C♯, D♭, D, E♭, E, F, F♯, G♭, G, A♭, A, B♭, B, C♭.

3. Be able to write from memory and to recite fluently the fifteen minor key signatures in the order shown in Example 1-21.
4. Be able to write from memory and to recite fluently the fifteen minor key signatures in the following order:

   c, c♯, d, d♯, e♭, e, f, f♯, g, g♯, a♭, a, a♯, b♭, b.

[2]Gioseffo Zarlino, *The Art of Counterpoint,* translated by Guy A. Marco and Claude V. Palisca (New Haven, Conn.: Yale University Press, 1968), pp. 21–23.

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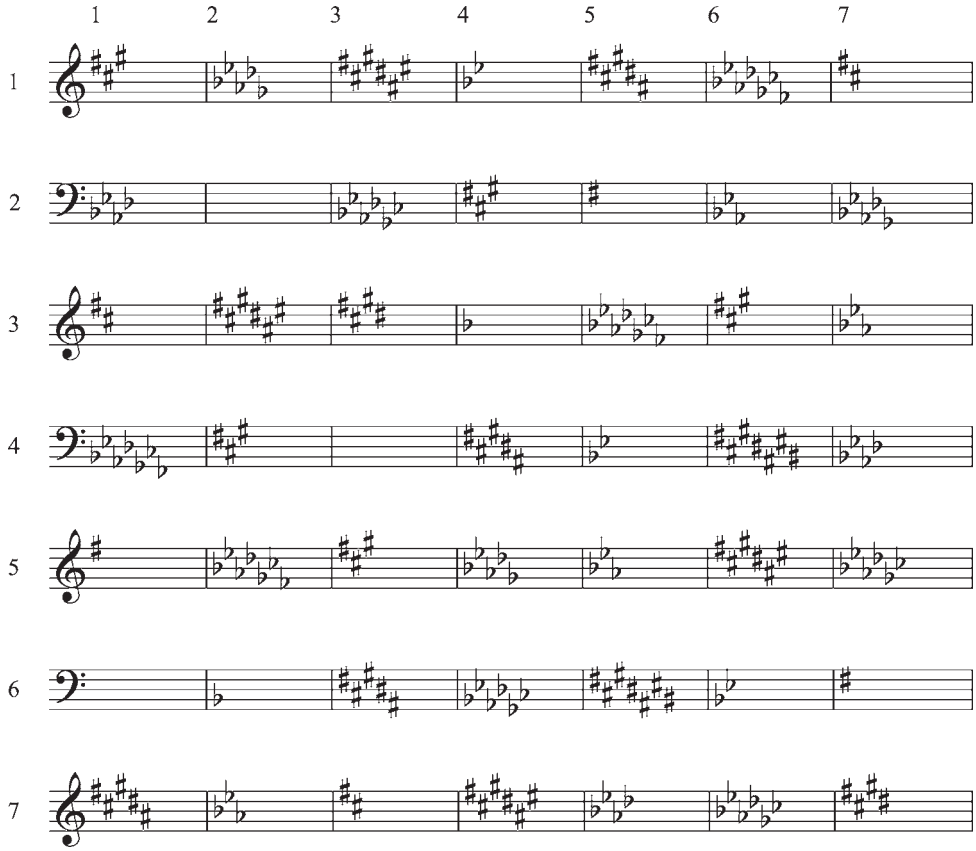
5. Recite as quickly as possible the names of the major keys indicated by the key signatures in each numbered row (horizontal and vertical) in the following diagram:

6. Using the same diagram, recite as quickly as possible the names of the minor keys indicated by the key signatures in each row. Do not write the answers.
7. Using the order of major keys in Exercise 2, name the relative minor of each of these keys.
8. Using the order of minor keys in Exercise 4, name the relative major of each of these keys.
9. Using the order of major keys in Exercise 2, name the key signature of the parallel minor of each of these keys. Which keys lack a normal parallel minor? Why?
10. Explain: key, tonic, scale, octave equivalence, diatonic, interval, horizontal interval, vertical interval, chord, triad, passing tone, neighboring tone, transposition, chromatic half step, diatonic half step, relative major, parallel minor, Phrygian mode.

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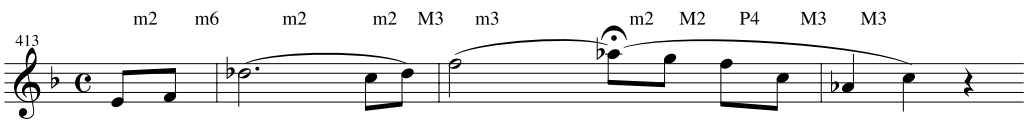
UNIT

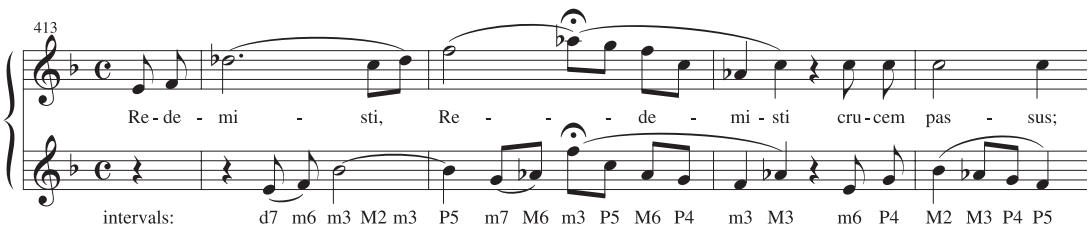
2 Intervals

2-1 *Verdi, Recordare* *(from the Requiem, Dies Irae)*

(a) horizontal intervals



(b) vertical intervals



translation: You have redeemed [me] through your suffering on the cross.

Recognizing and Constructing Intervals

1. ***Numerical Size and Quality.*** As you should remember from Unit 1 (Section 6), intervals exist in two dimensions: horizontal (melodic), as in Example 2-1a, and vertical (harmonic), as in 2-1b. And you will recall that the *numerical size* of an interval depends on the number of letter names the two tones span. But

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numerical size alone is not enough for the complete identification of an interval. For example, the intervals from C down to G♯, G♮, and G♭ are all 4ths, for they all have the same letter names. Yet the three intervals are slightly different in size and *very* different in sound or *quality*. Thus, the complete identification of an interval, whether horizontal (melodic) or vertical (harmonic), depends on both its numerical size and its quality.

Example 2-1b shows the intervals between the two melodic lines labeled both by size and by quality. Intervals come in five qualities:

Major (M)

Minor (m)

Perfect (P)

Augmented (A)

Diminished (d)

(Occasionally one encounters *doubly* augmented or *doubly* diminished intervals.)

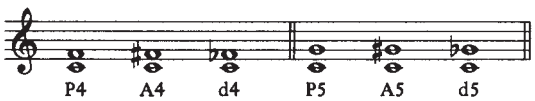
For purposes of classification, intervals divide into two groups:

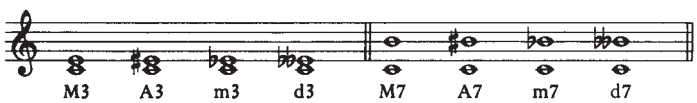
Group 1: Unisons, 4ths, 5ths, and octaves

Group 2: 2nds, 3rds, 6ths, and 7ths

The intervals belonging to the first group are basically *perfect;* they are never major or minor. The intervals belonging to the second group are basically *major* or *minor;* they are never perfect. Thus, musicians never speak of a "major 5th" or a "perfect 6th." Intervals of either group are sometimes *augmented* or *diminished*.

Group 1. If the upper tone of the interval belongs to the major scale of the lower tone, the interval is *perfect*. If the interval is a chromatic half step larger than perfect, it is *augmented;* if it is a chromatic half step smaller than perfect, it is *diminished* (Example 2-2).

2-2 *intervals: group 1*

Group 2. If the upper tone belongs to the major scale of the lower tone, the interval is *major*. If the interval is a chromatic half step larger than major, it is *augmented*. If it is a chromatic half step smaller than major, it is *minor*. And if it is a chromatic half step smaller than minor, it is *diminished* (Example 2-3).

2-3 *intervals: group 2*

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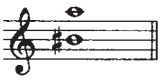
Identifying and building intervals is easy if the lower tone normally begins a major scale and if the interval is built up from the lower tone. It is slightly more difficult if the lower tone is the tonic of an improbable major scale or if the interval must be built down from the upper tone. The two problems below show the way to proceed.

PROBLEM 1: IDENTIFY THE FOLLOWING INTERVAL

Few of us are familiar with the exotic key of B♯ major, so we'll disregard the sharp for a moment. From B♮ to A is a minor 7th. (B to A♯ would be a major 7th because A♯ belongs to the B-major scale. B-A♮ is a chromatic half step smaller than major; therefore, it is minor.) If B-A is a minor 7th, then B♯-A must be a *diminished* 7th because raising the lower tone makes the interval a chromatic half step smaller than minor.

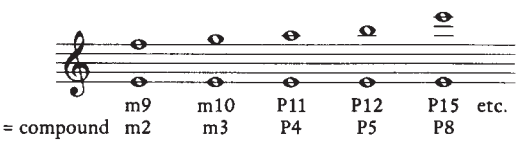
PROBLEM 2: WRITE AN AUGMENTED 6TH BELOW D

To solve this problem, we must first find the letter name of the lower tone. In this case, it is F, because F-D forms a 6th. From F to D would be a major 6th because D fits into the F-major scale. An augmented 6th is a chromatic half step larger. We cannot change the given tone, D, so we can enlarge the interval only by lowering the F. The correct answer, therefore, is F♭.

Note: Be careful! When you raise the lower tone of an interval, it becomes *smaller*; conversely, lowering the bottom note results in a *larger* interval.

2. *Compound Intervals.* Compound intervals are those larger than an octave. According to the principle of octave equivalence (see Unit 1, Section 4), compound intervals are functionally the same as the corresponding simple ones. As Example 2-4 demonstrates, a *12th* is simply an expanded 5th, a *15th* is an expanded octave, and so forth. And such intervals are almost always called 5ths and octaves rather than 12ths and 15ths. The only compound intervals whose names we need for our present purposes are the *9th* and the *10th*.

2-4 *compound intervals*



3. *Interval Inversion.* We invert an interval of an octave or less by bringing the lower tone up an octave or the upper tone down an octave while leaving the other tone in place (Example 2-5); with compound intervals one of the tones would have to be displaced by two or more octaves. The numerical size of an interval plus that of its inversion adds up to 9. Thus, the inversion of a unison is an octave (1 plus 8 equals 9), the inversion of a 3rd is a 6th (3 plus 6 equals 9), and so on.

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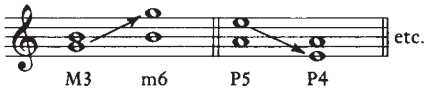
2-5 *inverted intervals*

The inversion of a perfect interval is also perfect. Inversion changes the other qualities to their opposites:

Major	becomes	minor
Minor	becomes	major
Augmented	becomes	diminished
Diminished	becomes	augmented

Because interval inversion results from the octave displacement of one of the interval's tones, an interval and its inversion form a related pair; this relationship is another consequence of octave equivalence.

The Overtone Series

4. Composite Sounds and Overtones. Most musical tones are *composite sounds*. Their pitch results from the frequency with which the sounding body vibrates. (The sounding body may be a string, as on a violin, or an air column, as inside an oboe; and so forth.) As it vibrates, the sounding body divides itself into segments that vibrate independently. The vibration of the segments produces *overtones*. Normally we are not conscious of these overtones for they and the *fundamental tone* (the pitch we hear) blend into a single sound. But if you have a good musical ear, you can easily train yourself to hear overtones, especially when the fundamental tone is in a low register. Overtones help to determine the *timbre* (or tone color) of the various instruments; they make possible the playing of harmonics on string instruments and the technique of overblowing on wind instruments.

The *intensity* (loudness) of the different overtones will vary depending on the instrument and on how it is played, but almost all musical sounds of any pitch contain the same group of overtones; we call this group the *overtone series*. Example 2-6 shows the series from Great C (review Example 1-5) through the 16th tone (or *partial*). The series continues infinitely, the intervals between successive partials becoming smaller and smaller. But the higher partials are so weak that they lose any musical significance. Note that the partials are numbered from the fundamental, which is the first partial. All the other partials, or overtones, are literally "over" the fundamental.

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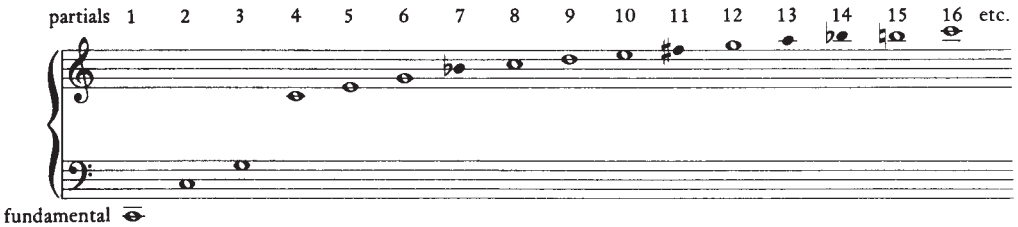
2-6 *the overtone series*

5. *The Overtone Series and the Tonal System.* We can see from Example 2-6 that the overtone series contains elements that coincide with some of the most important materials of the tonal system. Between the fundamental and its upper partials we find:

The perfect octave (partials 2, 4, 8, and 16)

The perfect 5th (partials 3, 6, and 12)

The major 3rd (partials 5 and 10)

The major triad (partials 1–6)

However, the tonal system does not make use of all the sounds that occur in the overtone series. The partials shown by black noteheads in Example 2-6 (7, 11, 13, and 14) do not form part of major or minor scales, and their notation in the example is only an approximation of their true pitch. Furthermore, some of the important elements of tonal music—the minor triad, for example—do not relate directly to the overtone series.

The significance of the overtone series for the theory of tonal music is a matter of controversy. In the past, many theorists went to absurd extremes in their attempt to use the series as a "scientific" basis for music, contorting it in various ways to extract a minor triad from it and making it the basis for arbitrary "rules" of composition—rules that no great composer has ever followed. And even where the series and the tonal system correspond very closely—as with the major triad—there is no proof that the acoustical relationship causes the musical one.

Nowadays most musicians would maintain that the foundations for music theory should lie in the works of great composers, not in the laboratories of acousticians. But the following characteristics can be observed in the works of the great composers of tonal music:

1. The major triad functions as the most stable chord. From the Renaissance on, composers showed a marked preference for the major triad as final chord, even in modes containing the minor 3rd. This tendency was strongest in the earlier stages of triadic music, but it never died out altogether.
2. In major–minor tonality, the major mode is normally the positive, happy, bright one, and the minor is the negative, sad, dark one. This again points to the greater stability of the major triad.
3. Two tones a 5th apart are in a particularly close relation.

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4. The most stable intervals are the octave, 5th, and 3rd (the major 3rd more so than the minor).
5. A triad is generated from its root, or lowest tone, much as overtones are generated from the fundamental.

All these characteristics are at least compatible with the view that some of the most important features of tonality give expression to relationships that are inherent in a single musical tone. As noted before, it is impossible to demonstrate a causal connection between the overtone series and these aspects of tonal music. But if it is a coincidence, it is a most remarkable one.

Consonance and Dissonance

6. Stable and Unstable Intervals. Some intervals produce the impression of stability; others, the effect of activity or tension. We call the stable intervals *consonances* or *consonant intervals;* the unstable ones are *dissonant*. The consonant intervals are the following:

The perfect unison
The perfect octave
The perfect 5th
The perfect 4th (sometimes)
Major and minor 3rds
Major and minor 6ths

The dissonant intervals are the following:

All 2nds
All 7ths
All augmented and diminished intervals
The perfect 4th (sometimes)

For the moment, in discussing consonance and dissonance, we will concentrate on vertical intervals, those whose tones sound simultaneously. Melodic intervals can also be characterized as consonant or dissonant, as we will discuss in later units.

7. The Consonant Intervals. In major–minor tonality, the consonant intervals are the unison and octave, plus all the intervals that make up major and minor triads. The most stable triadic intervals are those that lie between the lowest tone (root) of a triad and one of the upper tones; these are the perfect 5th, the major 3rd, and the minor 3rd. The remaining consonances—the major 6th, the minor 6th, and the perfect 4th—result from the inversion of the more stable ones. Example 2-7 illustrates the consonant intervals in an order that proceeds from the more to the less stable.

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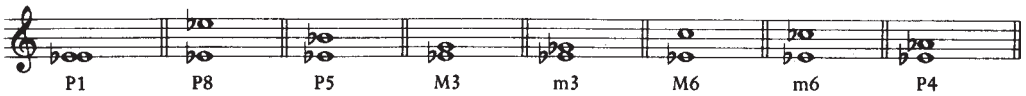
2-7 *consonant intervals*

The unison and octave are the most stable of all the consonances; in the unison the two tones agree completely, and in the octave they differ only in register. The lack of tension in these intervals is reflected in the tendency of composers to end pieces on unisons or octaves.

Next comes the perfect 5th. In music based on the triad, the 5th is uniquely important, for its upper tone defines the lower one as the root of a chord. Thus if we hear the bare 5th F-C, we understand F as the root, for F-C occurs in no triads except F major and F minor, in both of which F is the root. And because our feeling for key rests partly on the stability of the tones of the tonic triad, the 5th between $\hat{1}$ and $\hat{5}$ plays a most significant role in defining the key.

Composers have tended to treat the major triad as more stable than the minor. The major 3rd, therefore, which characterizes the major triad, is a more stable interval than the minor 3rd, which characterizes the minor triad. Both 3rds are more active intervals than the 5th.

Still more active are the major and minor 6ths, inversions of the 3rds. Differences in stability between the two kinds of 6th are not particularly significant. Their fluid character is reflected in the fact that they are not used to end pieces except for special and unusual effects.

The perfect 4th—the only interval that is sometimes consonant and sometimes dissonant—is in a category of its own and will be discussed in Section 11.

8. Perfect and Imperfect Consonances. We call unisons, octaves, and 5ths *perfect consonances;* we call major and minor 3rds and 6ths *imperfect consonances.* In two-part textures (music containing two melodic lines), composers prefer the more stable perfect consonances for important *points of articulation*—beginnings and endings of phrases, sections, or pieces (we will examine strict two-part writing in Unit 5). Because of their less stable, more fluid character, the imperfect consonances normally predominate in places where the music moves from one point of articulation to another. In textures of more than two parts, imperfect consonances tend to occur between the highest and the lowest parts (the most prominent lines), except at points of articulation.

9. The Dissonant Intervals. Unlike the consonances, all of which form part of major or minor triads and therefore function as chordal elements, dissonant intervals between two parts arise out of melodic activity in one or both of the parts. In Unit 1, Section 9, we saw that *passing tones* move by step from one stable tone to another and that *neighboring tones* arise from the stepwise decoration of a single tone. In Example 2-8, the passing and neighboring tones in one part create dissonant intervals between the two parts.

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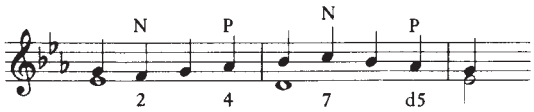
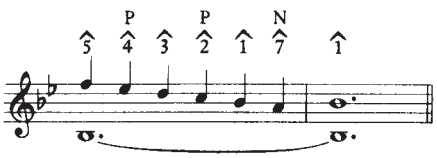
2-8 *melodic origin of dissonant intervals*

All the dissonant intervals in Example 2-8 arise from stepwise motion. This is a fundamental characteristic of dissonance treatment in tonal music. *Approaching and leaving the dissonance by step ensures a close connection between it and the surrounding consonances.* The stepwise connection channels the tension and energy of the dissonant intervals so that dissonance becomes a powerful force for musical direction. On the other hand, isolated dissonances—those without a close connection to consonances—run the risk of creating tensions that serve no musical purpose because they lead to no goals. We will continue to examine the dissonant intervals—and how they relate to perfect and imperfect consonances—in greater detail in Unit 5.

10. *Dissonance and Activity.* In Unit 1, we saw that $\hat{2}$, $\hat{4}$, $\hat{6}$, and $\hat{7}$ function as active tones tending to move to $\hat{1}$, $\hat{3}$, and $\hat{5}$. The division of scale degrees into stable and active tones relates directly to the phenomenon of consonance and dissonance because the active tones are those that form dissonances with one or more tones of the tonic chord, whereas $\hat{1}$, $\hat{3}$, and $\hat{5}$ (the tonic chord) are all consonant with each other. The simplest and most basic use of consonance and dissonance, therefore, would be $\hat{1}$, $\hat{3}$, and $\hat{5}$ as consonances and the other scale degrees as dissonances against the other part or parts (Example 2-9).

2-9 *$\hat{4}$, $\hat{2}$, and $\hat{7}$ form dissonances*

For composers to restrict themselves to the simplest possibilities, however, would be far too limiting. A most important compositional resource, therefore, is stabilizing the normally active tones by giving them the support of consonant intervals; at the same time, normally stable tones may become unstable by appearing as dissonances (Example 2-10). Note that $\hat{4}$, $\hat{2}$, and $\hat{7}$, the active tones stabilized by consonant support, do not altogether lose their active character, as we can ascertain by playing the example and stopping on one of those tones. The music does not sound at rest until it arrives at the final $\hat{1}$.

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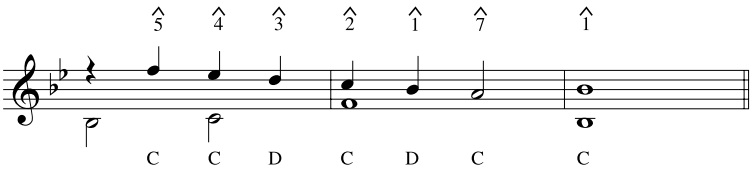
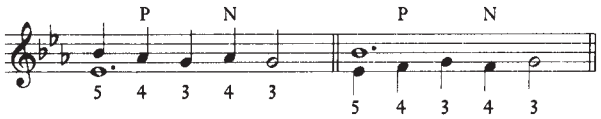
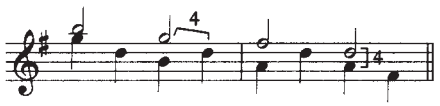
2-10 *$\hat{4}$, $\hat{2}$, and $\hat{7}$ given consonant support*



11. *The Perfect 4th.* In the early stages of medieval polyphony, the perfect consonances formed the basis for music composition. Not only unisons, octaves, and 5ths, but perfect 4ths as well, functioned as stable intervals.

Over the course of several centuries, composers experimented with the possibilities made available through the use of 3rds and 6ths; the most important of these possibilities were the complete triads, major and minor, that became the basis for later music. Using complete triads effected a fundamental change in musical structure; one consequence of this change threatened the consonant status of the 4th. Once the 3rd became a pervasive element in musical texture, many situations arose in which the 4th sounded less like an inversion of the 5th—and thus a more or less stable interval—than like an active interval gravitating to the 3rd. In such situations, the 4th takes on the character of a dissonance (Example 2-11).

2-11 *dissonant 4ths*

However, if the 4th occurs in close proximity to the 5th of which it is an inversion, it sounds perfectly stable and consonant; it has no tendency to move to a 3rd. The same is true in situations where the 4th appears in an arpeggiated triad. Example 2-12 illustrates the 4th as a stable, consonant interval.

2-12 *consonant 4ths*

Unlike any other interval, therefore, the 4th is sometimes consonant, sometimes dissonant. It is consonant whenever the context shows it to function as an inverted 5th; otherwise, it is dissonant. In simple textures, the 4th is mostly dissonant when it occurs in a two-part setting or between the lowest part and one of the upper ones in a setting of more than two parts.

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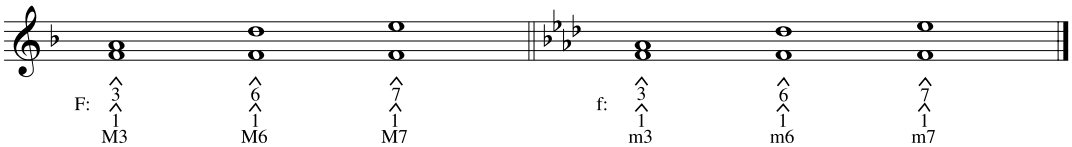
Intervals in a Key

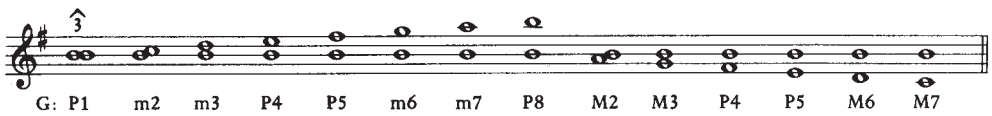
12. *Intervals between Scale Degrees.* The special character of any scale degree depends partly on the intervals it forms with the other degrees. In major, for example, $\hat{3}$, $\hat{6}$, and $\hat{7}$ form a major 3rd, major 6th, and major 7th above $\hat{1}$. In minor, the corresponding intervals are all minor. These differences in intervallic quality help give a different character to the tonic note in the two modes (Example 2-13).

2-13 *intervals in major and minor keys*

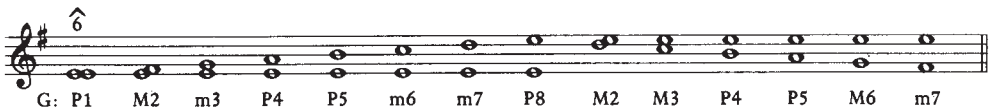


In any diatonic mode, the group of intervals formed by any scale degree sounding against all the others is unique. Each group will differ from all the other groups by two or more intervals. In Example 2-14, we show the intervals that contain $\hat{3}$ in G major (2-14a) and those that contain $\hat{6}$ (2-14b). The two groups of intervals are almost the same, but not quite. $\hat{3}$ forms a minor 2nd above and major 7th below, whereas $\hat{6}$ forms a major 2nd above and a minor 7th below. Every scale degree generates a unique collection of intervals, which gives each tone of a diatonic scale its own distinctive character.

2-14 *(a) intervals from $\hat{3}$*



(b) intervals from $\hat{6}$



Using the tones that belong to major, natural minor, and other diatonic scales, we can produce the following intervals: perfect unisons and octaves, perfect and diminished 5ths, perfect and augmented 4ths, major and minor 3rds and 6ths, and major and minor 2nds and 7ths. No other intervals can be produced by combining these tones.

13. *The Diminished 5th and the Augmented 4th in Major.* Among the intervals found in major and in natural minor are six perfect 5ths and six perfect 4ths (inversions of the 5ths). But there is only one diminished 5th and only one

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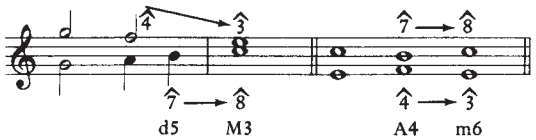
augmented 4th. In major, the diminished 5th occurs between $\hat{7}$ and $\hat{4}$; the augmented 4th, between $\hat{4}$ and $\hat{7}$. In Unit 1, we saw that $\hat{4}$ and $\hat{7}$ gravitate to the stable tones $\hat{3}$ and $\hat{1}$ because of the particularly intense character of the half-step relationship. When $\hat{4}$ and $\hat{7}$ occur at the same time, their melodic tendencies remain; in fact, they are considerably enhanced by the tension of the dissonant interval they form. The motion of a dissonant interval to the consonance that acts as its goal is called a *resolution*. The diminished 5th resolves by moving in to a 3rd; the augmented 4th resolves by moving out to a 6th (Example 2-15).

2-15 *resolving d5 and A4*

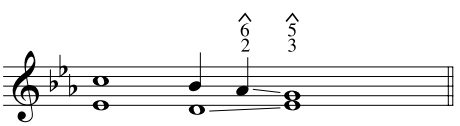


The resolution of the diminished 5th and augmented 4th to $\hat{1}$ and $\hat{3}$ creates a strong drive toward the tonic triad and helps orient the listener as to the position of the tonic; for this reason we call it a *key-defining progression*. The key-defining function of these intervals is connected with the fact that any particular diminished 5th or augmented 4th occurs in only one major key. Thus, the minor 2nd E-F occurs in two major keys: C and F; the major 3rd C-E occurs in three: C, F, and G. But the diminished 5th B-F (and the augmented 4th F-B), unlike any other interval, occurs in one major key alone—the key of C.

Traditionally, the augmented 4th is called the *tritone,* which means three whole steps, thus: F-G, G-A, and A-B. (Strictly speaking, the diminished 5th is not a tritone, for it contains not three whole steps but a diatonic half step, two whole steps, and another diatonic half step: B-C, C-D, D-E, and E-F. However, for convenience, the term *tritone* is often used to mean the diminished 5th as well as the augmented 4th.)

14. The Diminished 5th and the Augmented 4th in Minor. In the natural minor, the diminished 5th lies between $\hat{2}$ and $\hat{6}$, the augmented 4th between $\hat{6}$ and $\hat{2}$. They resolve to $\hat{3}$ and $\hat{5}$, expressed as a 3rd (resolution of diminished 5th) or as a 6th (resolution of augmented 4th). Although $\hat{3}$ and $\hat{5}$ are members of the tonic triad, these resolutions do not define the key nearly as successfully as do the corresponding resolutions to $\hat{1}$ and $\hat{3}$ in major. When $\hat{3}$ and $\hat{5}$ are heard without $\hat{1}$, $\hat{3}$ tends to be heard as the root of a triad. Thus, the progression shown in Example 2-16 suggests E♭ as tonic rather than C. It is partly because of this implication that the minor mode tends to gravitate to its mediant degree (or relative major).

2-16 *does not define c*



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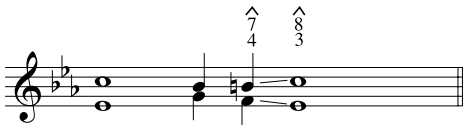
Raising $\hat{7}$ in the harmonic and melodic minor creates an "artificial" tritone between $\hat{4}$ and $\hat{7}$ that resolves to $\hat{1}$ and $\hat{3}$ as in major. The use of this tritone (or diminished 5th) lends to minor the clear definition of the key that occurs naturally in major (Example 2-17).

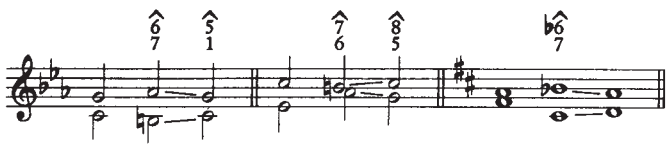
2-17 *defines c*



The raised $\hat{6}$ of the ascending melodic minor scale creates another tritone, in this case with $\hat{3}$. This tritone occurs much less often than the other two and has no significant influence on key definition.

15. *The Diminished 7th and the Augmented 2nd.* The interval between raised $\hat{7}$ and natural $\hat{6}$ in the harmonic minor is a diminished 7th; inverted, it becomes an augmented 2nd. Like all diminished and augmented intervals, these are dissonant. As Example 2-18 indicates, they resolve to $\hat{1}$ and $\hat{5}$. The diminished 7th is the more useful of the two intervals because it resolves to a 5th. The interval of the 4th, to which the augmented 2nd resolves, is itself often dissonant. Therefore, the augmented 2nd cannot occur very freely; as a rule, it is used in those situations where the 4th to which it resolves is consonant, as shown in Example 2-18b.

2-18 *resolving d7 and A2*

(a) *(b)* *(c)*

This pair of dissonant intervals has a very strong key-defining power. The resolution to $\hat{1}$ and $\hat{5}$ unmistakably points out the location of the tonic. Furthermore, among the intervals in major and minor scales, the diminished 7th and augmented 2nd appear *only* between raised $\hat{7}$ and natural $\hat{6}$. Thus, the diminished 7th C♯-B♭, for example, immediately points to D as tonic, for no other tonic can generate this particular interval. Because of its powers of key definition, the diminished 7th often appears in major as a consequence of mixture (see Unit 1, Section 22). We can bring the diminished 7th C♯-B♭ into the key of D major by introducing B♭, $\hat{6}$ of the parallel minor (Example 2-18c).

16. *The Remaining Intervals.* We have already mentioned most of the intervals that are significant in the study of music theory. Of those not yet mentioned, one pair, the augmented 5th and diminished 4th, occurs in the inflected forms of minor; these intervals arise from the combination of $\hat{3}$ and raised $\hat{7}$ (Example 2-19).

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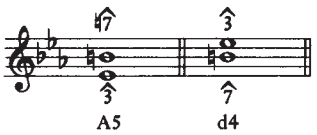
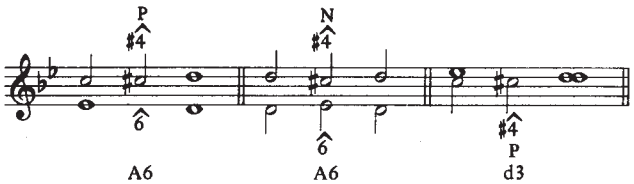
2-19 *A5 and d4*

Another pair, the diminished 3rd and augmented 6th, is the product of chromaticism. These intervals normally come about as a consequence of raising $\hat{4}$ in minor; the intervals between raised $\hat{4}$ and natural $\hat{6}$ are the diminished 3rd and augmented 6th. As Example 2-20 indicates, raised $\hat{4}$ functions as a lower neighbor to $\hat{5}$ (2-20b) or as a chromatic passing tone leading from $\hat{4}$ to $\hat{5}$ (2-20a and 2-20c).

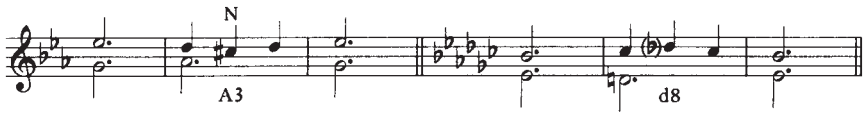
2-20 *A6 and d3*

(a) *(b)* *(c)*



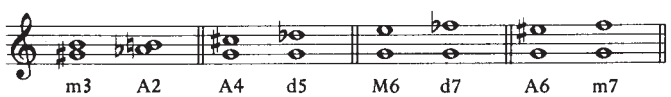
Chromaticism sometimes produces other intervals, but they are of less significance. The diminished octave and augmented 3rd of Example 2-21 are formed by melodic ornamentation in one of the parts; the intervals are mere by-products of this ornamentation.

2-21 *intervals as by-products*

(a) *(b)*

17. *Enharmonically Equivalent Intervals.* The use of enharmonically equivalent tones makes it possible to construct two intervals of different size and quality, but whose tones have the same pitch in tempered tuning (see also Unit 1, Section 14). Example 2-22a shows some of these enharmonically equivalent intervals. In isolation, an interval is indistinguishable from its enharmonic equivalent. In context, however, the two can sound very different indeed (2-22b).

2-22 *enharmonic equivalents*

(a)



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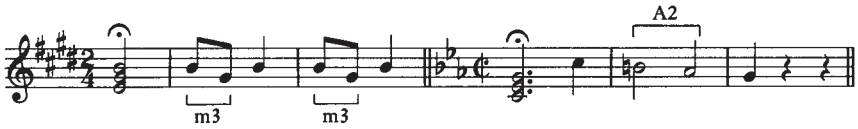
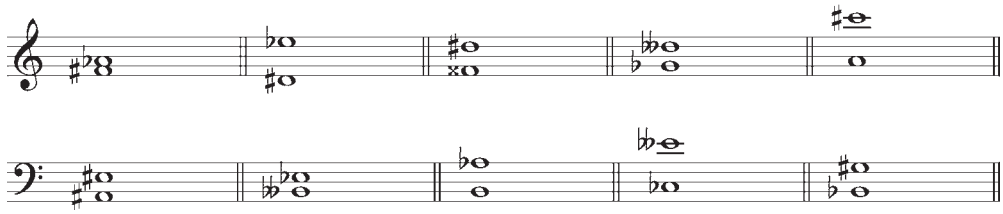
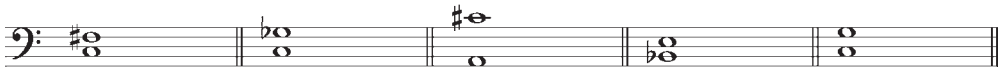
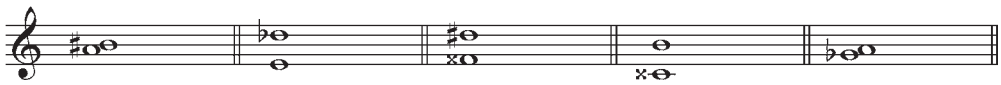
(b)

EXERCISES

1. Construct the following intervals above D: m2, M3, A4, d5, m6, M7, P8, m10, A2, P5. Do the same thing above F♯ and E♭.
2. Construct the following intervals below G: P4, A6, d7, A3, M2, m7, M6, m9, M10, m3. Do the same thing below C♯ and A♭.
3. Name the following intervals:



4. Name the inversions of the intervals in Exercise 3.
5. Name the major keys in which the following intervals would occur.



6. Name the minor keys in which the following intervals would occur:

7. Memorize the overtone series starting on Great C at least as far as the 8th partial and preferably through the 16th. Then, write the series on other tones, as below. Proceed either by interval above the fundamental (P8, P5, P8, M3, P5, m7, and so on) or by melodic interval from one partial to the next (P8, P5, P4, M3, m3, m3, and so on). The method not initially chosen can be used to check your results.
   a. Write the series up through the 16th partial, starting on Contra G♭. (For the meaning of Great C and Contra G♭, review Example 1-5.)
   b. Write the series of which g^{1} is the 10th partial.
   c. Write the series of which $a♭^{2}$ is the 12th partial.
   d. Write the series of which $c♯^{2}$ is the 5th partial.
8. Explain: numerical size, interval quality, compound interval, interval inversion, partial, imperfect consonance, resolution, key-defining progression, tritone, enharmonically equivalent intervals.

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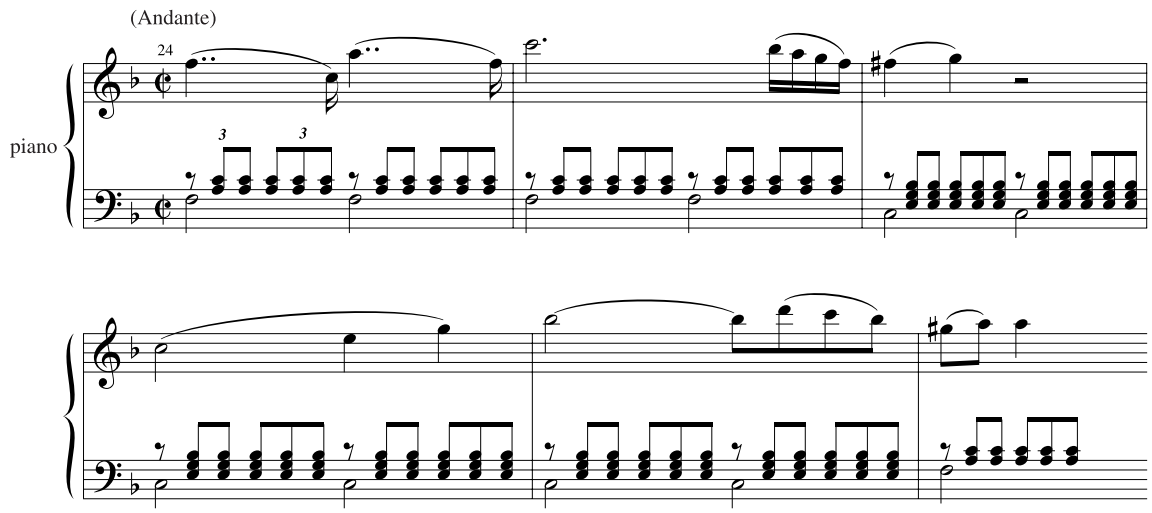
UNIT

3 Rhythm and Meter

3-1 *Mozart, Piano Concerto, K. 467, II*



Rhythmic Organization

1. ***The Beat.*** Music moves in time; musical rhythm organizes the flow of time. This organization involves many factors, the most important being duration, accent, and grouping. The basic unit of duration is the pulse or *beat*. A beat is

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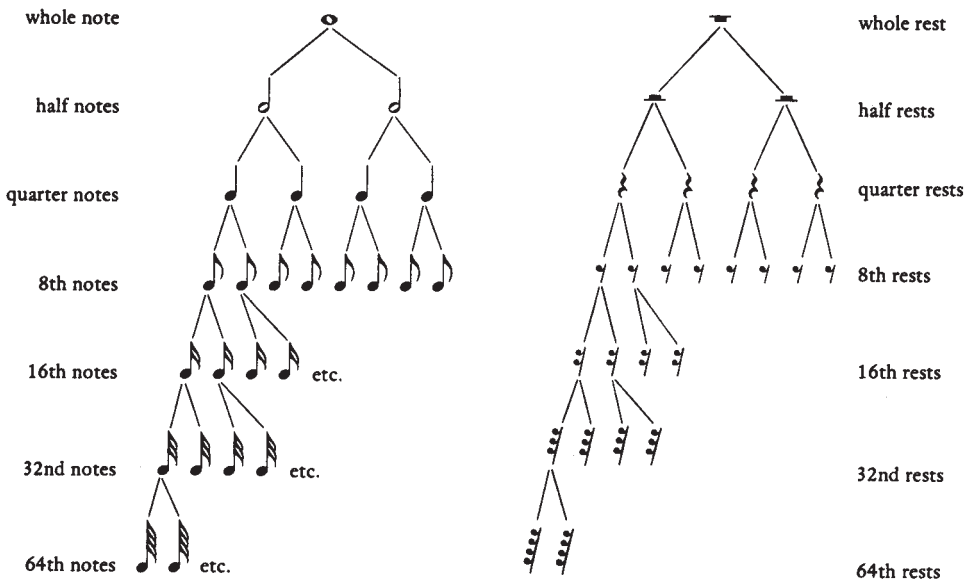
a span of time that recurs regularly; a succession of beats divides the flow of time into equal segments.*

We are aware of the beat even if it is not always expressed in the music. Thus, in the Mozart Piano Concerto passage of Example 3-1, the quarter note takes the beat. But the music does not move only—or even mainly—in quarter notes. Beats combine into half notes; they divide into eighths, triplets, and sixteenths; and additional time values are produced by dots, double dots, and ties. In the Mozart, we relate these other values to the quarter note as basic unit, so the beat persists as a background against which we hear the varied rhythms of the piece.

The simplest way both to divide and to combine beats is by twos (Example 3-2). Thus, a quarter note divides into two eighths, an eighth into two sixteenths, a sixteenth into two thirty-seconds, and so on. Similarly, two quarters combine into a half note and two half notes into a whole note. The division and combination of rests follow exactly the same principle.

3-2



The use of dots permits more complex divisions and combinations (Example 3-3). A dot following a note or rest adds half its value to it; a second or third dot adds on half the value of the preceding dot.

*Actually, the segments are approximately, rather than strictly, equal, for in performance, slight deviations from exact measurement are the rule rather than the exception. And the word *beat* is often used to denote the point in time where the span begins, rather than the span itself.

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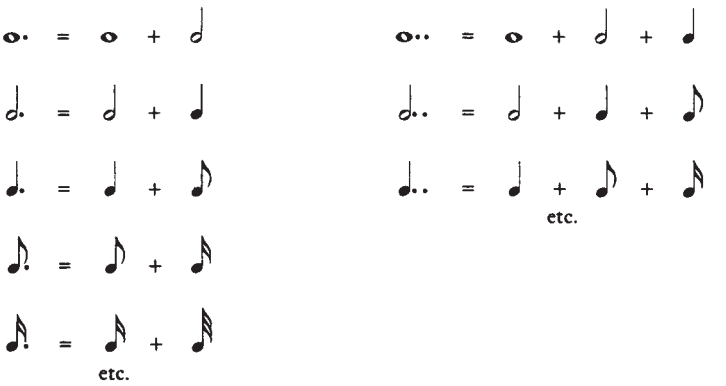
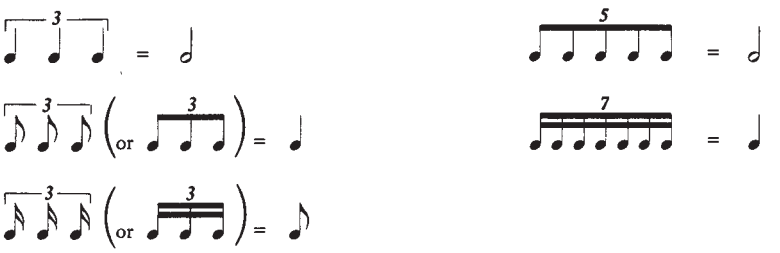
3-3



A division of the beat into three *(triplets)* is indicated by the numeral *3* above or below the notes. Other divisions can also be indicated through the use of the appropriate numerals. Example 3-4 shows some possibilities.

3-4



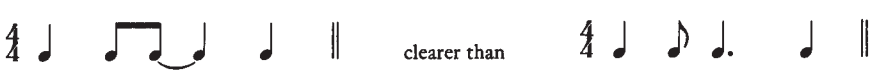
Using *ties* makes it possible to combine notes across a bar line and to create durations that cannot be achieved through note values or dots (Example 3-5). Sometimes two tied notes will replace a single dotted note to make for easier reading or a clearer expression of the rhythmic structure.

3-5

(a)

(b)

(c)



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2. **Tempo.** The musical term for the pace of a composition is *tempo* (Italian, time). In music whose rhythms are based on beats, the impression of a quick, moderate, or slow tempo comes from the pace of the beats, not from the speed of the quickest notes. A slow tempo such as an Adagio or Largo may contain passages in, say, 64th notes that move very quickly indeed. Yet, we do not hear a change to a quicker tempo; as long as the beats move slowly, the tempo remains slow. The pace of the beats relates to tonal movement, to the frequency with which chords change, or to the rate of motion of the main tones of the melody.

   The fact that music moves at different tempos relates to an important aspect of our notational system: note values indicate relative rather than absolute durations. A quarter note that occupies a beat in a Largo lasts much longer than a quarter note that gets the beat in a Presto. But no matter what the tempo, a quarter note equals two eighths or four sixteenths.

3. **Accent.** *Accent* means emphasis. A note that receives more emphasis than the ones surrounding it is heard as accented. Accents often arise in performance when a note is stressed by being played more loudly than those around it or when the performer emphasizes the beginning (attack) of the note. Other kinds of accents are, so to speak, built into the composition itself. In general, long notes attract accents because their long duration creates an emphasis (these are often referred to as *agogic accents*). Unusually high or low notes come across more strongly than do those in a normal register. Dissonant or chromatic elements, because of the tensions they create, tend to sound accented compared with consonant or diatonic elements.

4. **Meter and Metrical Accent.** A repetitive pattern that combines accented and unaccented beats is called *meter.* Usually we speak of *strong beats* and *weak beats* to distinguish beats with and without accents. If the first of every two beats is strong, the meter is *duple;* if the first of every three is strong, the meter is *triple. Quadruple meter* (derived from duple) has a primary emphasis on the first beat and a weaker emphasis on the third beat of four. In normal musical notation, the bar line appears just before the strong beat; the accent that falls on the first beat of the bar is called the *metrical accent.*

   The inner organization of a divided beat mirrors in miniature the metrical organization of a measure. The beginning of a beat is stronger than the subdivisions that follow it. Within a divided quarter note, for example, the accent will fall on the first of two eighths, the first of three triplet eighths, or the first of four sixteenths. If the tempo is slow, the third of four sixteenths may get a subsidiary accent, just like the third beat in a bar of quadruple meter.

5. **Time Signatures.** Composers indicate meter by means of *time signatures* placed at the beginning of a piece after the key signature and at any subsequent point where the meter changes. The time signature contains two numbers, one above the other. The lower number normally indicates the note value of the beat; the upper one indicates the number of beats per measure. Most often the quarter note gets the beat. Therefore duple, triple, and quadruple meter usually have the time signatures $\frac{2}{4}$, $\frac{3}{4}$, and $\frac{4}{4}$ (or its equivalent, $\mathbf{c}$). However, composers can suggest the character and, sometimes, the tempo of a piece by using another note value, usually a half note or an eighth, for the beat. Time signatures like $\frac{2}{2}$ ($\mathbf{¢}$), $\frac{2}{8}$, $\frac{3}{2}$, $\frac{3}{8}$, $\frac{4}{2}$, and $\frac{4}{8}$ occur frequently.

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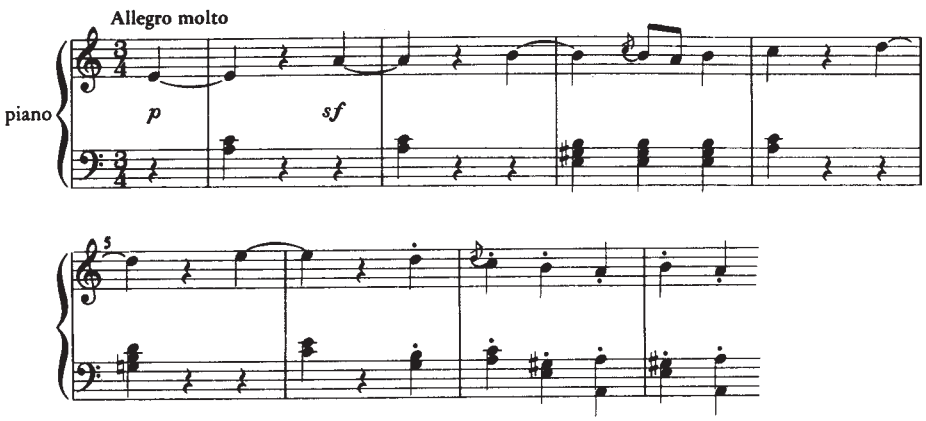
Some meters contain accentual patterning on more than one level. This is especially true of the so-called compound meters, those with beats grouped in multiples of three ($\frac{6}{8}$, $\frac{9}{8}$, $\frac{12}{8}$, $\frac{6}{4}$, and so on). In a bar of $\frac{6}{8}$ time, for instance, the first eighth note of each three receives an accent; the strong eighth notes, therefore, are the first and fourth. At the same time, a larger pattern of half bars is superimposed on this one; of the two dotted quarters in the bar, the first is the stronger. If the tempo is slow, we hear six beats in the bar arranged in two groups of three beats each; the beginning of the first group is stronger than the beginning of the second. If the tempo is quick, however, the $\frac{6}{8}$ has only two real beats; it sounds exactly like $\frac{2}{4}$ with triplet subdivisions.

Meters containing five or seven beats are frequent in twentieth-century music and occur occasionally in earlier music. These meters often result from the combination of duple and triple meter. Changing meters (such as $\frac{2}{8}$, $\frac{3}{8}$, $\frac{3}{16}$, $\frac{5}{8}$, $\frac{4}{8}$, and so on) also occur in a good deal of twentieth-century music—much less often in music of the nineteenth century.

6. Rhythmic Accent versus Metrical Accent. Very often a composer underscores the metrical accent by making it coincide with some other kind of emphasis. In Example 3-1, long notes appear at the beginnings of bars 1, 2, 4, and 5. At these points, the rhythmic accents caused by longer note values coincide with the metrically strong beats. In general, the simplest and most natural kinds of rhythm are those whose emphases fit into the metrical pattern.

Sometimes, however, a rhythmic emphasis contradicts the meter. The presence of a rhythmic accent at a metrically weak place is called *syncopation*. Syncopations arise in various ways; for our purposes the most important are those caused by a note that begins on a weak beat (or part of the beat) and is held through the next strong beat (or part). Because the beginning of a note is heard as stronger than its continuation, a note held from a weak through a strong beat conflicts—sometimes very strongly—with the meter. In Example 3-6, the syncopated notes are those tied over from the third to the first beat; the conflict between rhythmic emphasis and meter is evident.

3-6 *Beethoven, Cello Sonata, Op. 69, II*

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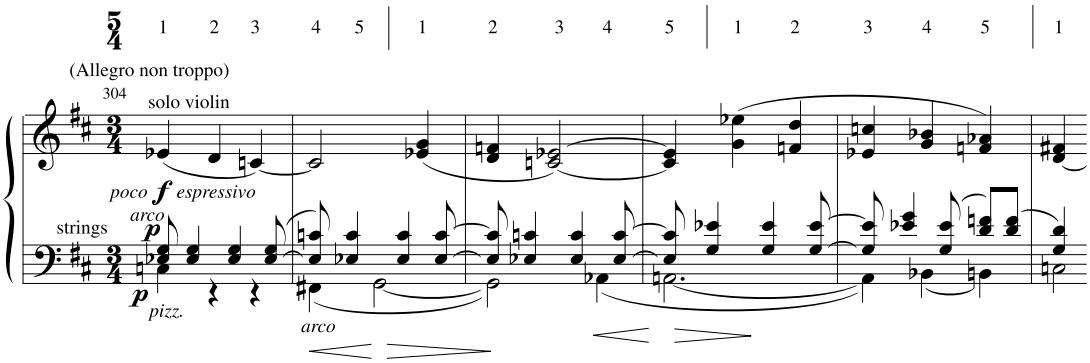
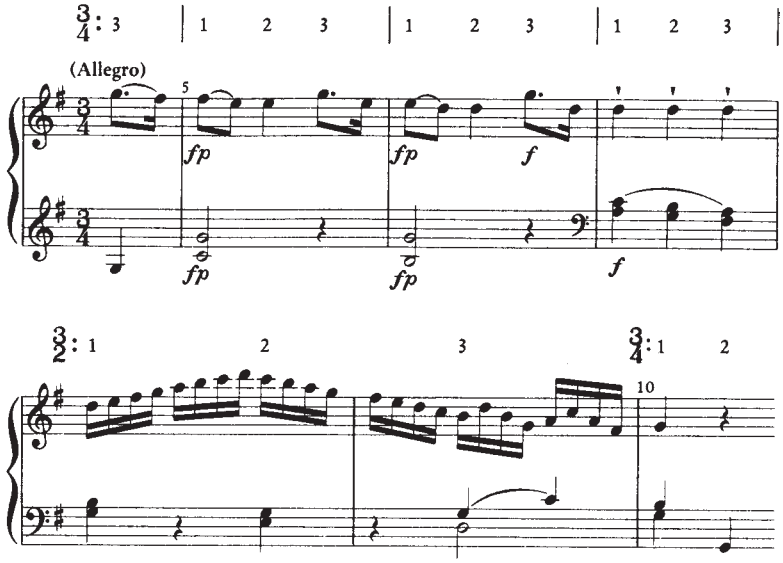
Rhythmic emphases that contradict the meter sometimes set up such a consistent pattern of their own that we hear a temporary change of meter. A passage from Brahms's Violin Concerto sounds as if it is in $\frac{5}{4}$ time, though the composer continues to notate the section in the basic $\frac{3}{4}$ meter of the movement (Example 3-7).

3-7 *Brahms, Violin Concerto, Op. 77, I*



In triple and compound meters, shifted accents sometimes transform two groups of three beats into three groups of two beats. Such is the case in bars 8 and 9 of the Mozart Sonata quoted in Example 3-8; the two bars of $\frac{3}{4}$ sound like a larger bar of $\frac{3}{2}$. The technical name for this rhythmic device is *hemiola*.

3-8 *Mozart, Piano Sonata, K. 283, I*

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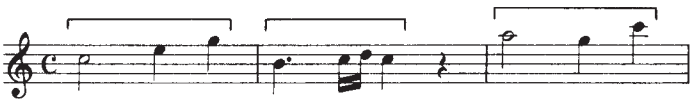
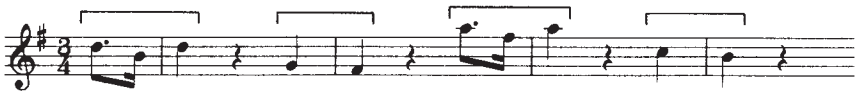
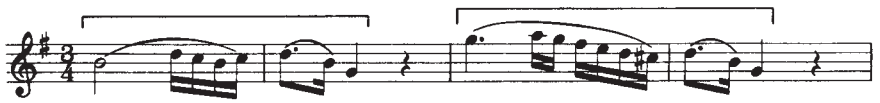
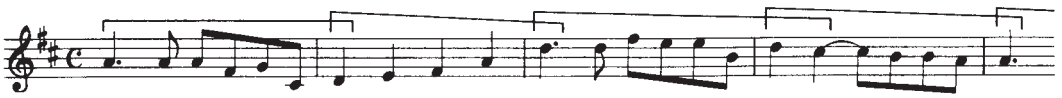
7. Rhythmic Groups. Musical tones coalesce into small figures or *rhythmic groups;* such groups form an important element in the design of a composition. Sometimes, as in the opening melody of our Mozart C-major Sonata, rhythmic groups begin on a strong part of the measure (Example 3-9a). Often, however, they begin on an unaccented beat, as in the opening of another Mozart Sonata (3-9b). Longer rhythmic groups are frequent, sometimes extending for more than a bar (Example 3-10). And one rhythmic group can merge into another; this happens when the last note of one also functions as the first note of the next. Such groups are said to *overlap* (Example 3-11).

3-9

(a) Mozart, K. 545, I



(b) Mozart, K. 283, I

3-10 *Mozart, K. 545, II*

3-11 *Mendelssohn, Songs without Words, Op. 85/4*

8. Measure Groups and Phrases. The principle of meter—regular and periodic groupings of strong and weak beats—often extends to groups of measures. Thus, in a group of four measures, the first and third will normally be heard as strong compared with the second and fourth. The term *hypermeasure* is often used to denote a group of measures that is regulated by meter, so that the whole group sounds like a large measure. The normal organization of measure groups is duple, with strong and weak measures alternating. Very frequently, two such duple groups combine into a four-bar hypermeasure, as in Examples 3-6, 3-9b, and 3-10. However, three-bar hypermeasures are also possible, as in Example 3-12 (also review Example 3-1). The general term for organization

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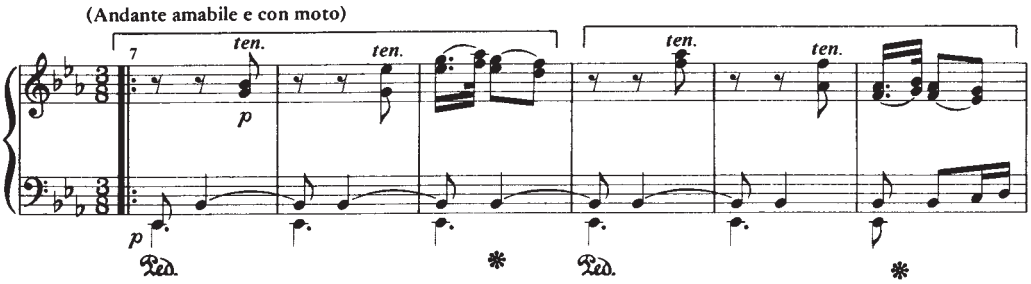
into hypermeasures is *hypermeter*. Hypermeter is a kind of large meter whose beats are whole bars or groups of bars.

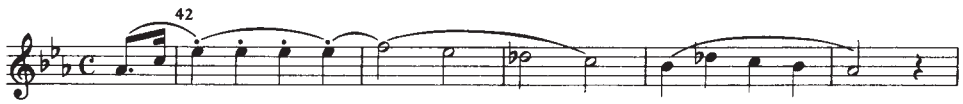
3-12 Beethoven, Bagatelle, Op. 126/6



Very often the end of a group of measures coincides with a goal of tonal motion. In such cases, the group is tonal, as well as rhythmic, and we call it a *phrase*. In Example 3-13, the arrival at the tonic in the eighth bar signals the end of the phrase, which consists of two four-bar hypermeasures.

3-13 Beethoven, Piano Sonata, Op. 14/I, II

Phrases of eight bars, as in Example 3-13, are very common; so are four-bar phrases. But other groupings often occur, including asymmetrical ones of five or seven bars (Example 3-14).

3-14 Schubert, Impromptu, Op. 90/1

Rhythm and Dissonance Treatment

9. Dissonance, Duration, and Accent. The effective functioning of a dissonant element depends on its relation to the consonances surrounding it. We have already seen that dissonances normally arise out of stepwise motion; this rule governs the melodic aspect of dissonance treatment. There is a rhythmic aspect as well: dissonances tend to occur in notes of relatively brief duration and (with one important exception) in metrically unaccented places. This rhythmic aspect of dissonance

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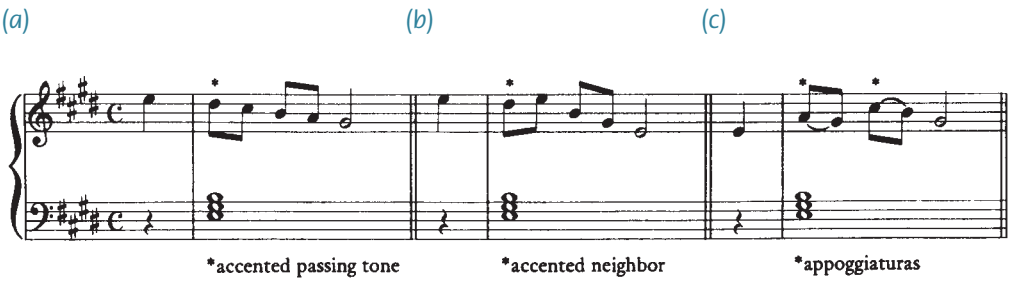
treatment is particularly important in the polyphonic music of the Renaissance, a period when composers subjected dissonance to stringent controls. In Unit 5, we will examine in greater detail the various types of dissonances (and their relation to consonances) in strict contrapuntal settings.

In and after the Baroque period, from about 1600 on, composers became more willing to extend the duration and highlight the prominence of dissonances. Nevertheless, brief duration and placement on unaccented beats remained the norm. Thus, passing and neighboring tones—the types of dissonance we have already encountered—will normally appear on weak beats or weak parts of divided beats. When they appear in a strong metric position, we call them *accented* passing or neighboring tones. Accented incomplete neighbors are frequently called *appoggiaturas*. Example 3-15 illustrates.

3-15 *accented dissonances*



10. *Suspensions.* One important type of dissonance, however, almost always appears in metrically accented positions; we call it the *suspension*. Suspensions originated as a consequence of syncopation. Tones in one part are shifted out of their normal rhythmic position with their beginning displaced from the strong beat to the following weak one; consequently they extend through the next strong beat. Example 3-16 shows how this process introduces dissonances (7ths) into a passage that consists, basically, of 6ths.

3-16 *suspensions from syncopation*

Suspensions also result from lengthening a tone so that it usurps part of the duration of the following tone (Example 3-17b). Or the suspended tone can be struck again rather than held over (3-17c). And in a texture of more than two parts, a suspension can delay the appearance of one of the tones belonging to a chord (Example 3-18; see also Unit 5, Section 16, for a discussion of how dissonances relate to underlying chords).

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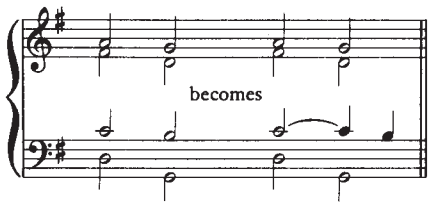
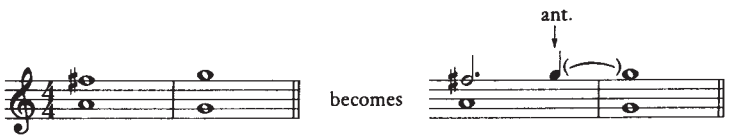
3-17 *suspension held over or restruck*

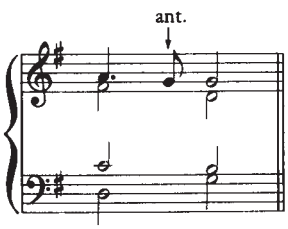
(a) (b) (c)

3-18 *suspension into a chord*

11. Anticipations. Syncopation can also give rise to unaccented dissonances. If a tone is shifted out of its normal rhythmic position by beginning *before* the strong beat, a dissonance can arise. We call such a tone an *anticipation* (Example 3-19). Anticipations are not always held over into the consonance that follows; often, the main tone is restruck. In textures of three and more parts, a chordal tone—most often in the highest part—can be anticipated. Example 3-20 shows an anticipation restruck in the highest voice.

3-19 *anticipation*



3-20 *anticipation restruck*



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EXERCISES

1. Add bar lines to the following examples. None of the three begins with a complete measure; the final measure, also, may be incomplete.

(a)

(b)

(c)

2. Add rests to the following examples where indicated by x's. Some of the x's may indicate more than one rest. The final bar must be complete.

(a)

(b)

(c)

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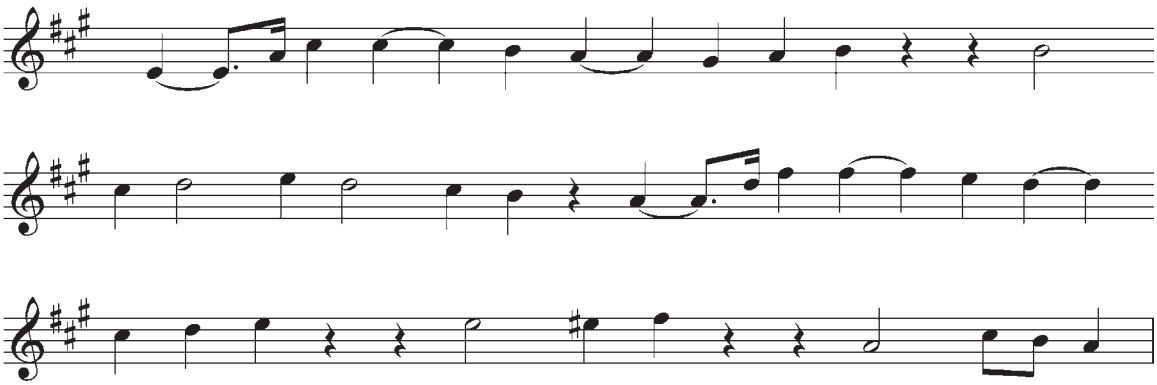
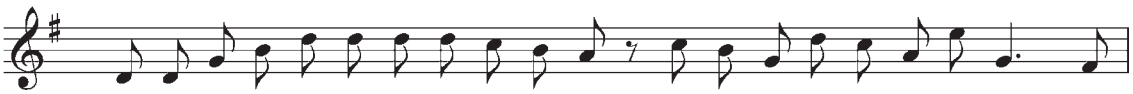
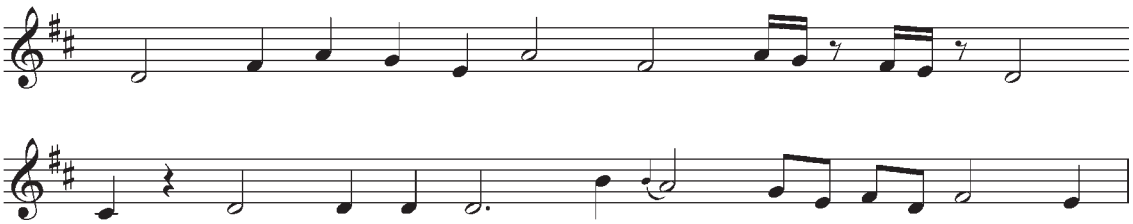
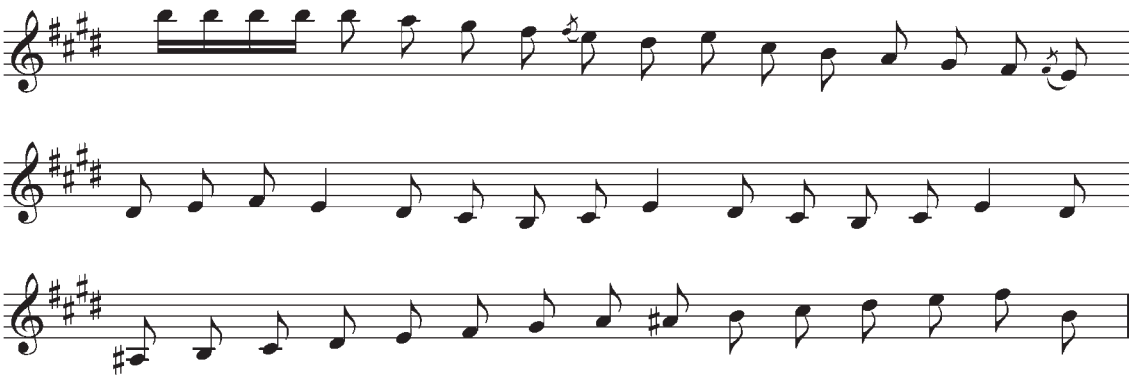
3. The following examples are melodic fragments from the literature. Supply time signatures and bar lines, bearing in mind that neither the opening nor the final measures are necessarily complete. Finally, supply a tempo that you consider appropriate.

(a) Beethoven

(b) Haydn

(c) Mozart



(d) Mendelssohn (excerpt begins on downbeat)



4. Explain: beat, tempo, accent, meter, syncopation, hemiola, rhythmic group, phrase, appoggiatura, suspension, anticipation, hypermeasure.

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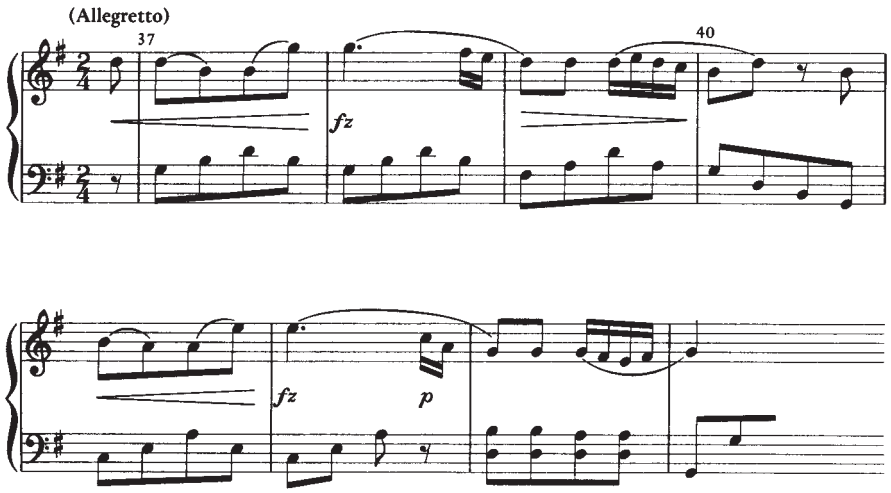
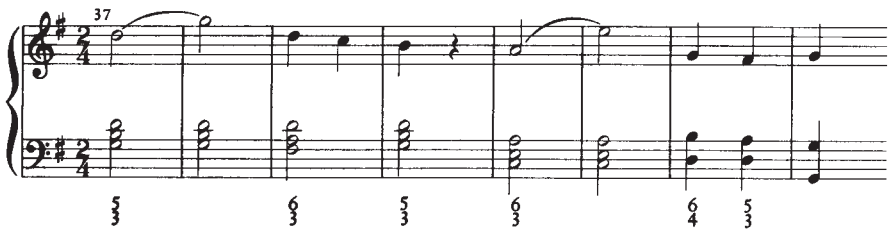
UNIT

4 Triads and Seventh Chords

4-1 Clementi, Piano Sonatina, Op. 36/2, 1

(a)

(b) reduction

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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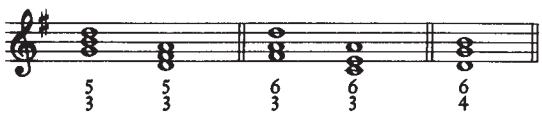
Triads

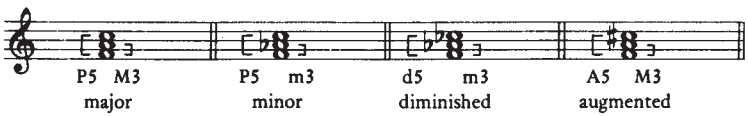
1. The Triad as the Basic Chord. Example 4-1 shows a phrase from a sonatina by Clementi. Under the music is a *reduction* (simplification) of its contents, with the left-hand part written in block chords and only the most essential tones of the melody shown (Appendix II discusses procedures for making reductions of passages from real music). The purpose of this reduction is to help us concentrate on the chords that occur in this phrase. As Example 4-2 shows, the chords are of three types, which are determined by the intervals between the lowest tone and the upper ones. Omitting octaves (which merely duplicate one of the other tones), we find the following intervals:

1. 5th and 3rd
2. 6th and 3rd
3. 6th and 4th

The Arabic numerals written under the chords refer to these intervals.

4-2 *triads*

Only the first of these types is a triad as defined in Unit 1: a three-tone chord consisting of a 5th and 3rd above the lowest tone. But the other two types are derived from triads. In this unit, we will discuss how the triad—the basic chord of tonal music—generates other consonant and dissonant chords.

2. Triad Qualities. As we know, triads consist of two intervals—a *5th* and a *3rd*—above the lowest tone (the *root*). Because there are different kinds—or qualities—of 5ths and 3rds, there are different qualities of triads. Example 4-3 shows the four types of triads. Table 4-1 gives a summary of their qualities.

4-3 *triad types*

Of the four qualities, the major and minor are by far the most important; because they contain only consonant intervals (perfect 5ths, major and minor 3rds), they are consonant chords. Diminished and augmented triads are dissonant because each contains a dissonant interval—a diminished or augmented

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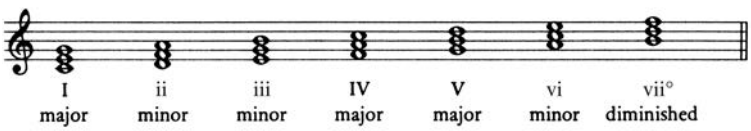
5th. Of the two dissonant triads, only the diminished has any importance for the beginning stages of music theory.

Table 4-1 *Triads*

Triad Quality	5th Quality	3rd Quality
Major	Perfect	Major
Minor	Perfect	Minor
Diminished	Diminished	Minor
Augmented	Augmented	Major

3. *Systems of Roman Numeral Analysis.* The chordal vocabulary of tonal music has as its basis a group of seven triads, each constructed on a different degree of the diatonic scale. Example 4-4 shows this group of triads in the key of C major. Note that the group contains three major triads, three minor triads, and one diminished triad.

4-4 *triads in major*



As we saw in Unit 2, Section 5, the major triad is the most stable of all chords. If music were merely a succession of stable, well-balanced chords, it might well contain nothing but major triads. But such a procedure would contradict the unity and continuity that form an essential aspect of musical composition. In D major, for example, if the chords on F♯ and B were expressed as major triads, they would contain the tones A♯ and D♯, tones that do not belong to the D-major scale and that would conflict with the D♯ and A♯ of the tonic triad. To avoid such contradictions, the basic chordal vocabulary of tonal music confines itself to diatonic elements—those belonging to the scale.

The Roman numerals under the chords in Example 4-4 designate the scale degrees on which the triads are built. These scale degrees are the roots or fundamental tones of the triads. (Remember that the Roman numerals refer to scale degrees only as the roots of chords, not as elements in a melodic line; for the latter purpose we use the capped Arabic numerals.)

Here are the seven major-scale triads grouped by qualities:

Major triads	I, IV, and V
Minor triads	ii, iii, and vi
Diminished triad	vii^{o}

Two systems of Roman numeral analysis are commonly employed in music theory. The first uses a combination of upper- and lowercase Roman numerals

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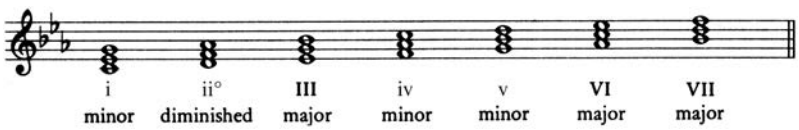
to indicate both the degree of the scale on which the chord is built and the *quality* of the chord. This system can be useful for those approaching harmonic analysis for the first time and for whom knowledge of chord quality is still developing. In later work this method can facilitate certain writing skills, particular those involving the various types of mixture.

As illustrated in Example 4-4, uppercase Roman numerals, such as I, IV, and V, indicate major triads. For augmented triads (see Section 5), a plus (+) or a sharp (♯) sign, appearing by itself or with an Arabic numeral, may be added to the Roman numeral; symbols for augmented chords, however, are not as standardized as are those signifying other chord qualities. Possibilities include $I^{\#5}$, $I^{5\#}$, I^{+}, and $I^{6}_{\#}$.

Lowercase Roman numerals, such as i, iv, iv^{7}, and iv^{6}_{5}, apply to minor triads or to minor seventh chords (discussed below): vii^{o}, vii^{o6}, vii^{o7}, and vii^{o6}_{5}; for a diminished triad, a superscript circle is added to a lowercase Roman numeral. For a half-diminished seventh chord, a circle with a line accompanies the lowercase Roman numeral: $ii^{\emptyset 7}$, $ii^{\emptyset 6}_{5}$, and $vii^{\emptyset 6}_{5}$.

The second system uses all uppercase Roman numerals and is particularly useful for advanced theory and harmonic analysis. For instance, the Roman numerals II, II^{7}, and II^{6}_{5} signify chords of different quality that share the same harmonic function. In this system, therefore, Roman numerals can indicate the scale degree on which a chord is built (and thus its spelling), but its more essential purpose is to signify harmonic function.[1]

4. *Triads in Natural Minor.* Example 4-5 shows the triads on the degrees of the C-minor scale. Note that each triad's quality differs from that of the corresponding triad in major.

4-5 *triads in natural minor*

Here are the minor-scale triads grouped in terms of qualities:

Minor triads	i, iv, and v
Major triads	III, VI, and VII
Diminished triad	ii^{o}

Note that I, IV, and V are major triads in the major mode and minor triads in the minor mode. The characteristic color of each mode comes not only from the quality of the tonic triad—though that is the most important factor—but also from the fact that IV and V, the other major triads in the major mode, are minor triads in the minor mode.

[1]The all uppercase system was used in previous editions of this book.

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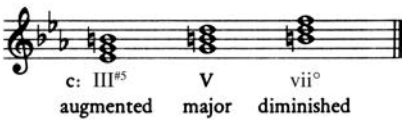
5. *Triads in the Inflected Forms of Minor.* The lack of a leading tone in the natural minor makes it necessary to raise $\hat{7}$ whenever a motion to $\hat{1}$ is expected; the raising of $\hat{7}$ frequently necessitates raising $\hat{6}$ to avoid the awkward melodic interval of an augmented 2nd (see Unit 1, Sections 16–18). When $\hat{7}$ and $\hat{6}$ occur as members of chords, raising them changes the quality of the chords. Example 4-6 shows the three chords containing $\hat{7}$ in its raised form. The qualities of these chords are

III$^{\#5}$	Augmented
V	Major
vii^{o}	Diminished

4-6 *triads with raised* $\hat{7}$

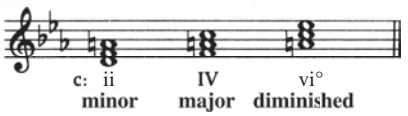


Note that V and vii^{o} become just the same as in the parallel major key, reinforcing the idea that the inflected forms of minor result from mixture with the major mode. As an augmented triad, III$^{\#5}$ is more visible in harmony books than audible in real music. The basic form of III as it occurs in composition—a major rather than an augmented triad—is the one derived from the natural form of minor. On the other hand, V and vii^{o} occur frequently in both forms; in fact, they occur more frequently with raised than with natural $\hat{7}$.

Example 4-7 illustrates what happens to ii^{o}, iv, and VI when $\hat{6}$ is raised. The chords become

ii	Minor
IV	Major
vi^{o}	Diminished

4-7 *triads with raised* $\hat{6}$



The chords ii, IV, and vi^{o} with raised $\hat{6}$ occasionally make a fleeting appearance in musical compositions. But the characteristic form of these chords is the one with natural $\hat{6}$. Table 4-2 shows the qualities of triads in minor and indicates the typical usage of each.

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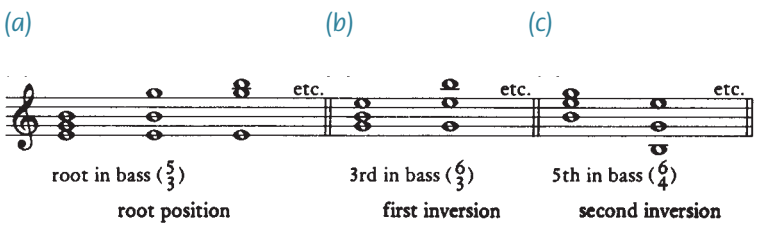
Table 4-2 *Triads in Minor*

In Natural Minor		Other Quality
i	Minor	None
ii°	Diminished	Minor (with raised $\hat{6}$)—infrequent
III	Major	Augmented (with raised $\hat{7}$)—infrequent
iv	Minor	Major (with raised $\hat{6}$)—infrequent
v	Minor	Major (with raised $\hat{7}$)—very frequent
VI	Major	Diminished (with raised $\hat{6}$)—infrequent
VII	Major	Diminished (with raised $\hat{7}$)—very frequent

The problematic character of minor compared with major is reflected in the presence of these alternative forms of triads—especially of v and VII. Only as we begin to work with these chords will we be able to learn how to use the two forms of v and VII. But the basic principle is simple: a motion to $\hat{1}$, or the expectation of such a motion, requires the raising of $\hat{7}$ and the accompanying change in the quality of v and VII.

6. Triads in Inversion. The normal position of the triad, with the root as the lowest tone, is called the *root position*. Like intervals, however, triads can be *inverted*. A triad is in inversion when a tone other than the root is the lowest. If the 3rd of the triad is the lowest tone, the triad is in *first inversion;* if the 5th is the lowest tone, the triad is in *second inversion*. Whether a triad is in root position or one of the inversions depends solely on which tone is the lowest; the upper tones can be in any position (Example 4-8).

4-8 *triad inversions*



Just as the 3rd G-B and its inversion, the 6th B-G, form a pair of related intervals, so do the triad G-B-D and its inversions, B-D-G and D-G-B, form a group of related chords. And just as a 3rd and a 6th, though related, are not completely equivalent (the 6th is less stable), so, too, a root-position triad and its inversions are by no means completely equivalent. Learning to distinguish their various functions will form a significant part of later units.

7. $\frac{5}{3}$, $\frac{6}{3}$, and $\frac{6}{4}$ Chords and Figured Bass. We know that the intervals between the lowest and the upper tones of a root-position triad are a 5th and 3rd. As Example 4-8 shows, the intervals between lowest and upper tones in a first-inversion triad are a 6th and a 3rd; in a second-inversion triad, they are a 6th and a 4th. Musicians frequently use the term *five-three chord* (written $\frac{5}{3}$) when

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referring to a triad in root position. The terms *six-three chord* ($\frac{6}{3}$) and *six-four chord* ($\frac{6}{4}$) denote triads in first and second inversion.

This terminology comes from the old practice of *figured bass,* sometimes called *thorough bass.* During the Baroque period, composers did not normally write out the accompaniments to solos and ensemble music, but indicated them instead in a kind of musical shorthand. The accompanist (usually a keyboard player) would play from a part containing the bass line of the composition; the bass line was supplemented by numbers (or figures, hence figured bass). The numbers denote intervals above the bass and indicate the chords the accompanist must play. Thus, the sign $\frac{6}{4}$ indicates that the bass tone and a 6th and 4th above it are to be played at the same time. The resulting chord would be a $\frac{6}{4}$ chord. Often the figures are abbreviated. Triads in root position occur so frequently that the symbol $\frac{5}{3}$ is usually omitted; the omission also reflects that a bass tone, heard alone, tends to sound like a root. If the lowest tone of a chord is not figured, therefore, the chord is a $\frac{5}{3}$. Also the symbol $\frac{6}{3}$ is frequently shortened to 6. Sometimes other symbols—sharps or flats, for example—modify the figures.

By means of the figured bass, the composer indicated the essentials of the accompaniment, but in the execution (or "realization"), many of the details were left to the accompanist, who would sometimes contribute extensive improvised elaborations. People trained to play from a figured bass, therefore, received an excellent preparation for improvisation and for composition. And long after composers stopped including figured-bass accompaniments (or *continuo* parts) in their compositions, they used the figured bass in their preliminary sketches. Indeed, realizing figured basses both on paper and at the keyboard is an incomparably useful and convenient way to master the basic materials and procedures of tonal music.

Example 4-9 shows the basic figured-bass symbols for $\frac{5}{3}$, $\frac{6}{3}$, and $\frac{6}{4}$ chords. During the time that figured bass was an essential part of musical performance, a variety of symbols were used at different times and places or by different composers.[2]

The procedures we follow in this book are fairly standard:

1. Key signatures apply to figures as well as to notes.
2. Modifications of key signatures (accidentals) are indicated by the appropriate sign (♭, ♮, ♯, 𝄫, and so on) next to the figure.
3. An accidental standing alone (not next to a figure) always affects the 3rd above the bass.
4. Sometimes the raising of a tone is indicated by a slash through the figure (6̸) or a little vertical line (4̉, 2̉, or 5̉) rather than by a ♯ or ♮.
5. Figures do not specify the arrangement of the upper voices. Thus, a $\frac{6}{4}$ chord can be played with either the 6th or the 4th on top; the choice is the accompanist's.

[2]For an account of figured-bass practice, see one of the standard works dealing specifically with figured bass. An excellent, exhaustive source is F. T. Arnold, *The Art of Accompaniment from a Thorough-Bass* (Oxford: Oxford University Press, 1931), reprinted in two volumes (New York: Dover, 1965).

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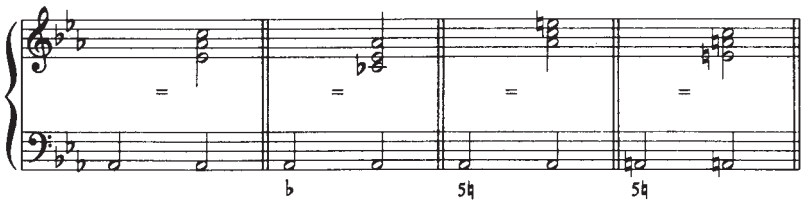
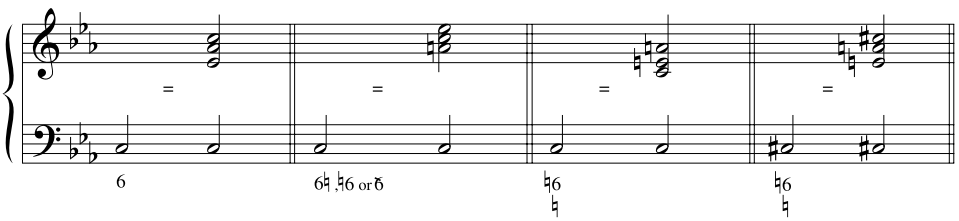
4-9 *figured-bass symbols*

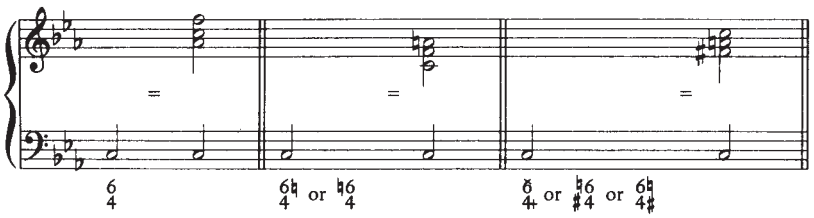
(a)



(b)



(c)



8. $\frac{6}{3}$ and $\frac{6}{4}$ Chords as Products of Melodic Motion. It is convenient to think of $\frac{6}{3}$ and $\frac{6}{4}$ chords as inversions of root-position triads. This is certainly the case in Example 4-10a where a $\frac{6}{3}$ chord comes about through inverting the chord on the downbeat. Quite often, however, the context in which these chords occur makes another explanation far more musically convincing, as a look at 4-10b will show. The piece is in D major, and D is the first bass tone we hear. Since this tone happens to be the tonic, it would make little sense to understand the opening chord as an inversion of a B-minor triad. Instead, one hears the B of the melody as a tone that ornaments and delays A, the 5th of the tonic triad. In this situation, therefore, the $\frac{6}{3}$ chord D-F♯-B results from melodic activity in one of the parts rather than from chord inversion.

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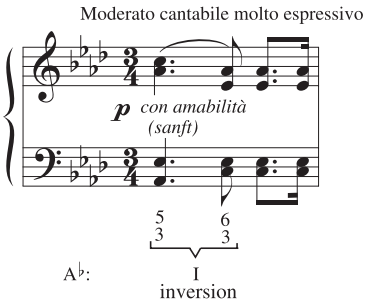
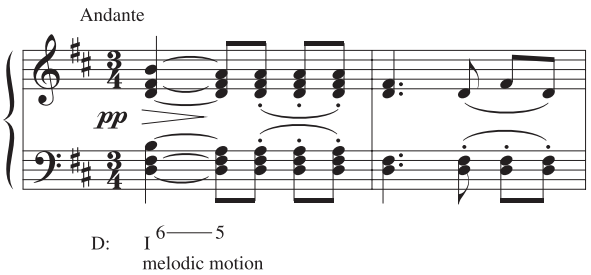
4-10

(a) Beethoven, Piano Sonata, Op. 110, I



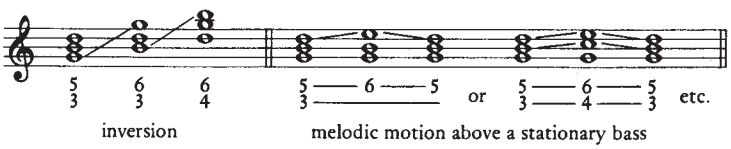
(b) Schubert, Piano Sonata, D. 664, II



What the Schubert excerpt indicates is that $\frac{6}{3}$ chords—and the same is true of $\frac{6}{4}$'s—can derive from $\frac{5}{3}$'s through melodic motion above a stationary bass as well as through inversion. Example 4-11 shows these two contrasting possibilities. It also shows how such melodic motions are indicated in figured bass: by figures placed next to each other horizontally above a stationary bass tone. Such figures (5-6, 6-5, $\frac{5}{3}$, $\frac{6}{4}$, and $\frac{5}{3}$) are normally executed by keeping the melodic motions in the same voice or pair of voices.

4-11 *inversion versus melodic motion*

(a) *(b)*



9. $\frac{6}{3}$ and $\frac{6}{4}$ Chords: Nomenclature. Theorists follow two different approaches in naming the tones of $\frac{6}{3}$ and $\frac{6}{4}$ chords; Example 4-12 illustrates these approaches. In discussing a $\frac{6}{3}$ chord, for instance, some refer to the tones as "3rd, 5th, and root," just as if the chord were in root position (4-12a). Others, following a figured-bass approach, name the tones from the bass and call them "bass, 3rd, and 6th" (4-12b). In general, we follow the second approach. Our reason is the

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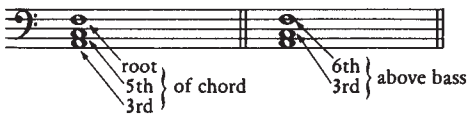
fact—already familiar—that F is the "root" of A-C-F only when that chord is the product of inversion, not when it comes from melodic activity. When the chord clearly functions as an inversion, however, it is sometimes necessary to refer to its "root" or "5th." One can always avoid confusion by specifying "3rd above the bass" or "5th of the root position," and so on.

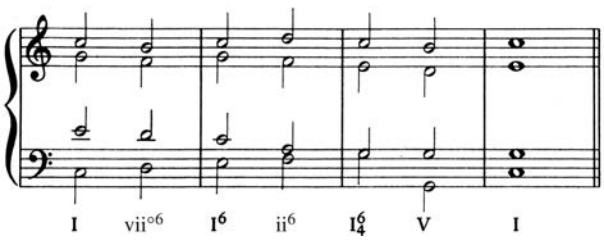
4-12 *naming chord tones*

(a) *(b)*



10. *Harmonic Analysis.* Roman numerals and figured-bass symbols show very different things. Roman numerals indicate the *roots* of chords and the scale degrees on which they fall. Figured-bass symbols are calculated from the *bass tones,* not the roots, so that we do not need to think of the chord roots to realize a figured bass. But it is possible to combine elements from both approaches; the roots can be indicated by Roman numerals, and the inversions, if any, by figured-bass symbols. Thus, E-G-C in C major would be I^6: I because the root is C and 6 because the chord is in $\frac{6}{3}$ position. Example 4-13 consists of a short chord progression in C major; underneath the progression is a *harmonic analysis* that combines Roman numerals and figured-bass symbols.

4-13 *harmonic analysis*



This kind of harmonic analysis is the usual one, and it is useful to a point. However, such an analysis has serious limitations, one of which we can already perceive. Placing a Roman numeral under each chord implies that all the $\frac{6}{3}$ and $\frac{6}{4}$ chords are the products of inversion. But we have already seen that some of these chords arise from melodic motion over a stationary bass. In such cases—and they are very frequent—a harmonic analysis like the one shown in Example 4-13 can be misleading, for it ignores the origin, behavior, and function of some of the chords (for instance, the I^6_4 in bar 3). Thus, although Roman numerals constitute an important tool at every stage of harmony study, the further you advance, the less you will need to label every chord.

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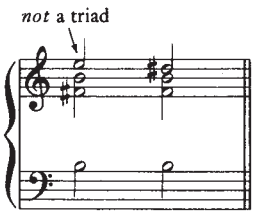
11. *An Easy Way to Remember Triads.* In music theory, it is vital to be able to recognize and construct triads instantly and to relate them to major and minor keys. In this connection it helps to remember that only seven combinations of letter names form the intervals of a 5th and a 3rd; only these seven groups, therefore, form triads. They are

C-E-G D-F-A E-G-B F-A-C G-B-D A-C-E B-D-F

Thus, the first sonority shown in Example 4-14 is not a triadic chord, for it cannot be reduced to one of the seven groups. The second one is, however; it can be reduced to B-D♯-F♯ or, without the sharps, to B-D-F.

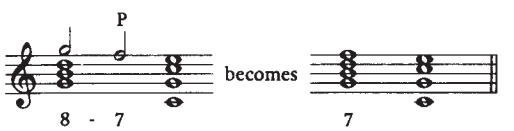
4-14

Seventh Chords

12. *The Melodic Origin of Seventh Chords.* All the consonant chords of tonal music are triads in root position or inversion (though not all triads are consonant—some $\frac{6}{4}$ chords and all diminished and augmented ones are not). Most of the dissonant chords used in tonal music belong to the category of *seventh chords*. The name reflects the fact that all these chords contain the interval of a 7th above the root.

Example 4-15 shows how seventh chords originated. In 4-15a, the 7th is formed by a passing tone that leads down from an octave to the 3rd of the following chord. The figured-bass sign 8-7 symbolizes this motion from the octave through the passing 7th to the following consonance. Around the beginning of the Baroque period, composers began to intensify the effect of the dissonance by omitting the octave and allowing the 7th to occupy the full duration of the chord, a process called *contraction* or *elision*. That the dissonant 7th still represents a passing tone is indicated by the basic rule governing the use of seventh chords: the dissonance moves down by step to resolve (4-15b), just as it would if it were a normal passing tone.

4-15 *origin of seventh chords*

(a) *(b)*



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Every seventh chord consists of a triad plus the interval of a 7th. The triad—especially if it is a major or minor one—is the stable part of the chord. The 7th is the active, unstable, dissonant element that must resolve by stepwise descent.

13. *Qualities of Seventh Chords.* The quality of a seventh chord depends on the qualities of the triad and 7th it comprises. And since all seventh chords are unstable and all follow the same basic rule of resolution (the 7th moves down by step), the quality of a seventh chord has less influence on its function than is the case with triads. Example 4-16 lists the most important types of seventh chords, using the names by which they are usually called. The term *dominant seventh* reflects the fact that this chord appears on the 5th degree (dominant) of the major and inflected minor scales; it is the most important of all the seventh chords. A summary of seventh-chord qualities is given in Table 4-3.

4-16 *seventh-chord types*
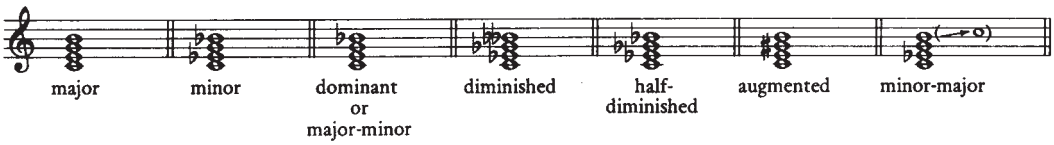
Table 4-3 *Seventh Chords*

Important Qualities	Triad Quality	7th Quality
Major	Major	Major
Minor	Minor	Minor
Dominant or major–minor*	Major	Minor
Diminished	Diminished	Diminished
Half-diminished	Diminished	Minor
Less Important Qualities		
Augmented	Augmented	Major
Minor–major†	Minor	Major

*Called "major–minor" when it occurs on scale degrees other than $\hat{5}$.

†Hardly ever a real seventh chord; why not? (See Example 4-16.)

14. *Seventh Chords on Scale Degrees.* Seventh chords, like triads, appear on all degrees of the major and minor scales. Like triads, they are identified by Roman numerals (showing roots), but with an Arabic 7 added. Thus, a seventh chord built on the subdominant (in the major mode) would be called IV^7. Example 4-17 shows the seventh chords on the degrees of the E-major and C♯-minor scales. The alternative forms of minor make possible a bewildering array of qualities; only the most important possibilities are indicated.[3]

[3]When referring to a Roman numeral *in general*, we use the form belonging to the major mode.

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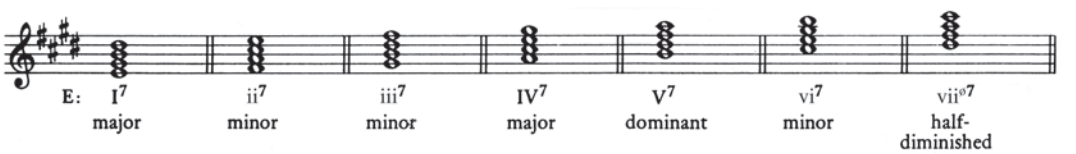
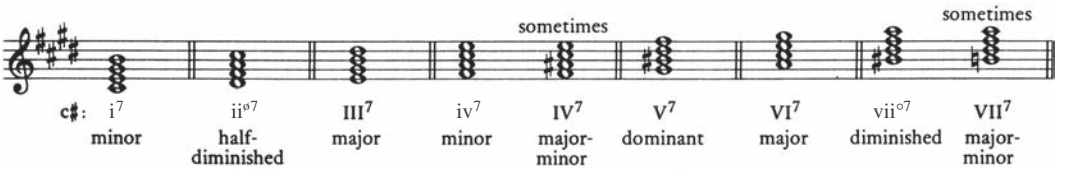
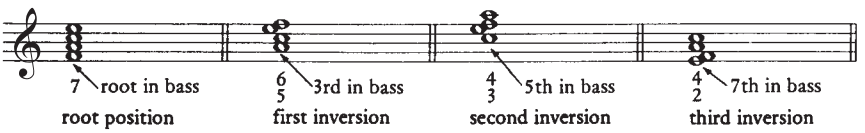
4-17

(a) seventh-chord qualities in major

(b) seventh-chord qualities in minor



15. *Inversions of Seventh Chords.* Seventh chords contain four tones—root, 3rd, 5th, and 7th—so they occur in three inversions as well as in root position (Example 4-18). In the first inversion, the 3rd appears as the lowest tone; in the second inversion, the 5th is the lowest tone; in the third inversion, the 7th is lowest.

4-18 *seventh-chord inversions*



16. *Figured-Bass Symbols for Seventh Chords.* The complete figures for a seventh chord and its inversions are $\begin{matrix}7\\5\\3\end{matrix}$, $\begin{matrix}6\\5\\3\end{matrix}$, $\begin{matrix}6\\4\\3\end{matrix}$, and $\begin{matrix}6\\4\\2\end{matrix}$. Usually these figures are abbreviated to 7 (sometimes $\frac{7}{5}$ or $\frac{7}{3}$), $\frac{6}{5}$, $\frac{4}{3}$, and $\frac{4}{2}$ (or 2). It is easiest to memorize the figures as "seven, six-five, four-three, two," but $\frac{4}{2}$ is used more frequently than 2 to indicate the third inversion. Sometimes the figure appears in complete rather than abbreviated form—for example, if one of the numbers is modified by a sharp or flat.

Just as with triads, one can indicate the roots of seventh chords by using Roman numerals and the root position or inversion by figured-bass symbols. Example 4-19 illustrates.

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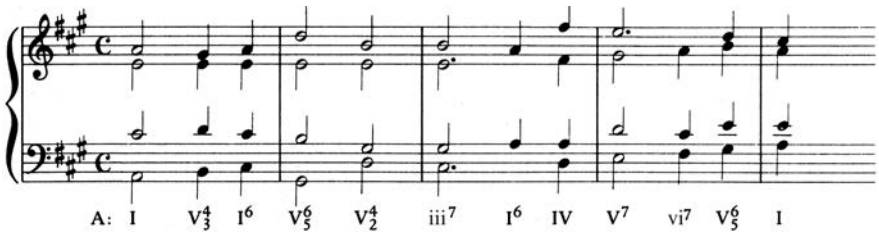
4-19 *analyzing seventh chords*



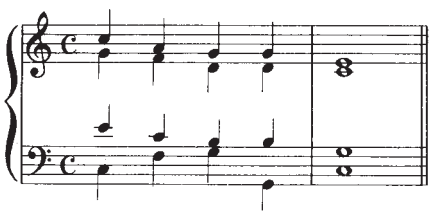
17. *Remembering the Seventh Chords.* Again, as with the triads, only seven combinations of letter names form seventh chords. They are

C-E-G-B D-F-A-C E-G-B-D F-A-C-E G-B-D-F A-C-E-G B-D-F-A

Note that the first three letters of each group correspond to the seven triads.

Texture and Structure

18. *Note-Against-Note and Figurated Textures.* Music in a simple chordal style usually proceeds in a *note-against-note* texture; all the voices or parts maintain the same rhythm. In the simplest form of this style, only tones that are chord members will appear. Example 4-20 illustrates such a texture. Real music, however, seldom maintains this kind of simplicity for long. More often, the texture will be enlivened by *figuration*, quicker notes in one or more of the parts. These quicker notes sometimes arpeggiate the chord that is sounding at the time; that is, they leap from one chord tone to another. At other times, the play of figuration introduces tones that do not form part of the chord against which they sound. The most important of these figuration tones are the passing tone, neighboring tone (complete and incomplete), suspension, anticipation, and appoggiatura, which were discussed in Units 1 and 3 and which will frequently appear in the examples of later units. The progression shown in Example 4-21 is the same as the one in 4-20, but the texture is figurated.

4-20 *note-against-note texture*

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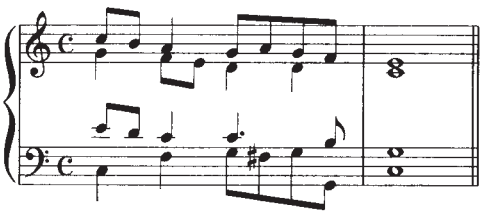
4-21 *figurated texture*

19. *The Progression of Chords.* The material in this unit will enable you to recognize and label all the chords that appear frequently in tonal music, except those modified by chromatic alteration. The ability to identify and construct chords is an important and necessary step toward the goal of musical understanding, but by itself it does not guarantee such understanding. Far more important is learning—with both ear and mind—how these chords function, how they relate to one another, how they interact to create musical motion. The principles that regulate the progression of chords form a large part of the subject matter of this book, and they do not lend themselves to quick summary. However, two of these principles—*harmony* and *voice leading*—are sufficiently general and broad in their application to be mentioned appropriately at this point.

By harmony, we mean that aspect of music concerned with relationships among chords. By voice leading, we mean that aspect of music concerned with the simultaneous motion of two or more parts. The unit of harmony is the chord; the unit of voice leading is the melodic line. However, the simultaneous motion of several lines necessarily creates chords. And it is hard to conceive a progression of chords without the explicit or implicit presence of melodic lines. In practice, therefore, the two principles interact with and influence each other.

20. *Harmony, the 5th Relationship, and Tonic and Dominant.* In tonal music, harmonic progression is organized by the *5th relationship*. We have already mentioned the close affinity that exists between two tones pitched a perfect 5th apart. The 5th is the first "new" tone in the overtone series; in triadic music, the 5th is uniquely able to define the root or fundamental tone of a triad. The 5th forms the basis of organization not only of elements within a single chord but also of movement from one chord to another. That the interval of the 5th dominates harmonic progression is reflected in the use of the term *dominant* to denote the scale degree a 5th above the tonic and the chords built on that degree. Relationships in tonal music are organized around the tonic, so the basic harmonic relationship is that between tonic and dominant—between the chord built on the central tone and the one built on its upper 5th.

This relationship controls not only many immediate successions from one chord to the next, but large-scale connections as well. In the Mozart C-major Sonata (Example 1-1), for instance, the opening theme moves from the tonic to the dominant of bars 11 and 12; the tonic begins the motion and the dominant is its goal. The large-scale progression from I to V forms the framework within which the numerous details are organized. And near the end of the piece (Example 1-3), V—this time as a seventh chord (V^7)—precedes the tonic

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of bar 71. Beginning in Unit 6, you will have many opportunities to observe the overriding importance of the 5th relationship and, in particular, of the connection between tonic and dominant harmonies.

21. *Voice Leading.* Many chord progressions of tonal music arise out of voice leading or counterpoint—that is, the chords result from the simultaneous motion of several melodic lines. This principle of organization is older than harmony; composers became aware of the possibility of relating chords to one another after centuries of contrapuntal music in which the chords arose as by-products of the voice leading. Just as the basis of harmonic progression is motion by 5th, so the basis of melodic progression is motion by step. In successions of chords controlled by voice leading *(contrapuntal progressions),* stepwise motion predominates. In the next unit, we focus exclusively on the study of counterpoint and voice leading.

You will begin to understand the manifold elaborations of harmony and voice leading and the countless ways in which they join forces to create musical textures when you study the basic techniques of four-part writing in Unit 6.

EXERCISES

1. On E, build major, minor, augmented, and diminished triads in root position. Do the same on B♭, G♯, and A♭.
2. From the major key and Roman numeral given, write root-position triads as indicated.

   B: ii F♯: vii°

   G: vi E♭: iii

   A♭: IV
3. From the minor key given, write root-position triads as indicated, using the natural form.

   f: III d♯: VI

   c♯: iv e♭: VII
4. On E, build major, minor, augmented, and diminished $\frac{6}{3}$ chords.
5. On B♭, build major, minor, augmented, and diminished $\frac{6}{4}$ chords.
6. On G♯, build all four qualities of $\frac{6}{3}$ chords.
7. On A♭, build all four qualities of $\frac{6}{4}$ chords.
8. From the major key and Roman numeral given, write triads as indicated.

   E: IV^6 G: $iii\frac{6}{4}$

   B♭: ii^6 C♯: $I\frac{6}{4}$

   F: $vii^{\circ 6}$ A♭: $vi\frac{5}{3}$

   B: V^6 D: $IV\frac{6}{4}$

   G♭: iii^6 A: $ii\frac{6}{4}$

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9. From the minor key given, write triads as indicated, using the natural form.

c: VII^{6}_{4}	e♭: VI^{6}
f♯: v^{6}_{4}	a: iv^{5}_{3}
c♯: III^{6}	e: ii^{6}_{4}
g: i^{6}	b♭: VII^{5}_{3}
d: VI^{6}_{4}	f: v^{6}

10. On F♯, build all qualities of root-position seventh chords. Label each chord, using the following symbols:

major	M	diminished	o
minor	m	half-diminished	ø
dominant	X	augmented	A
minor-major	m/M		

11. Do the same on A♭.

12. From the major key and Roman numeral given, write root-position seventh chords as indicated, labeling each chord with the symbols given in Exercise 10.

E♭: IV^{7}	C: V^{7}
A: vi^{7}	F♯: $vii^{ø7}$
B: ii^{7}	A♭: iii^{7}
F: IV^{7}	C♯: V^{7}
E: vi^{7}	D: I^{7}

13. From the minor key given, write root-position seventh chords as indicated, using the harmonic form.

g: $vii^{\circ 7}$	g♯: V^{7}
a: $vii^{\circ 7}$	b♭: V^{7}
b♭: $vii^{\circ 7}$	b: V^{7}

14. From the major key and Roman numeral given, write inverted seventh chords as indicated and label the quality of each.

A: ii^{6}_{5}	B: $vii^{ø4}_{3}$
D♭: vi^{4}_{2}	E♭: V^{7}
F: IV^{6}_{5}	G: iii^{4}_{3}
A♭: ii^{4}_{2}	B♭: I^{7}
C: $vii^{ø6}_{5}$	

15. From the minor key given, write inverted seventh chords as indicated, using the natural form.

d: VI^{4}_{3}	e: iv^{4}_{2}
f♯: III^{7}	g♯: $ii^{ø6}_{5}$
b♭: i^{4}_{3}	c: VII^{4}_{2}
c♯: VI^{7}	d♯: iv^{6}_{5}

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16. From the minor key given, write inverted seventh chords as indicated, using the harmonic form.

f: V^6_5	g: V^4_3
a: V^4_2	b: V^7
c: vii$^{\circ 7}$	d: vii$^{\circ 6}_5$
e♭: vii$^{\circ 4}_3$	f♯: vii$^{\circ 4}_2$

17. Explain: root position, triad in inversion, figured bass, $\frac{6}{3}$ (or $\frac{6}{4}$), chord by melodic motion, note-against-note texture, figurated texture, 5th relationship.

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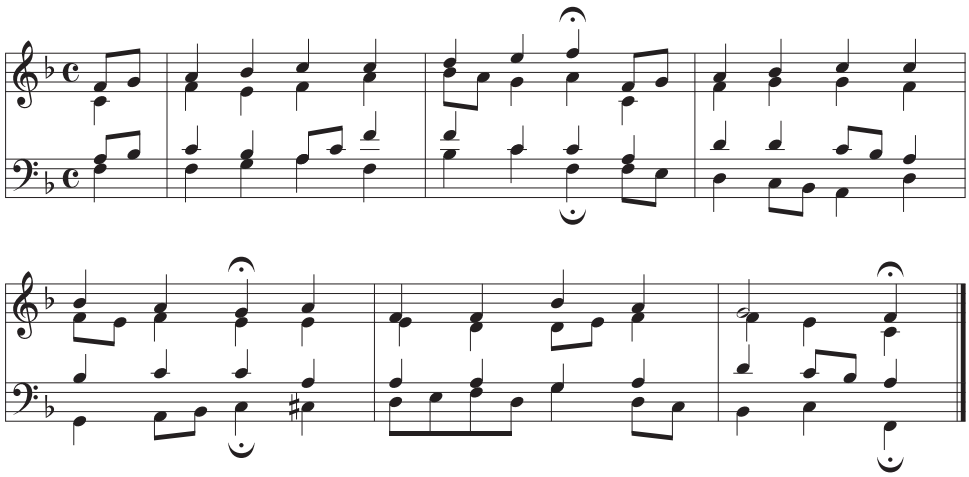
UNIT

5 Introduction to Counterpoint

5-1 *Bach, Chorale 26, "O Ewigkeit, du Donnerwort"*

(a) original

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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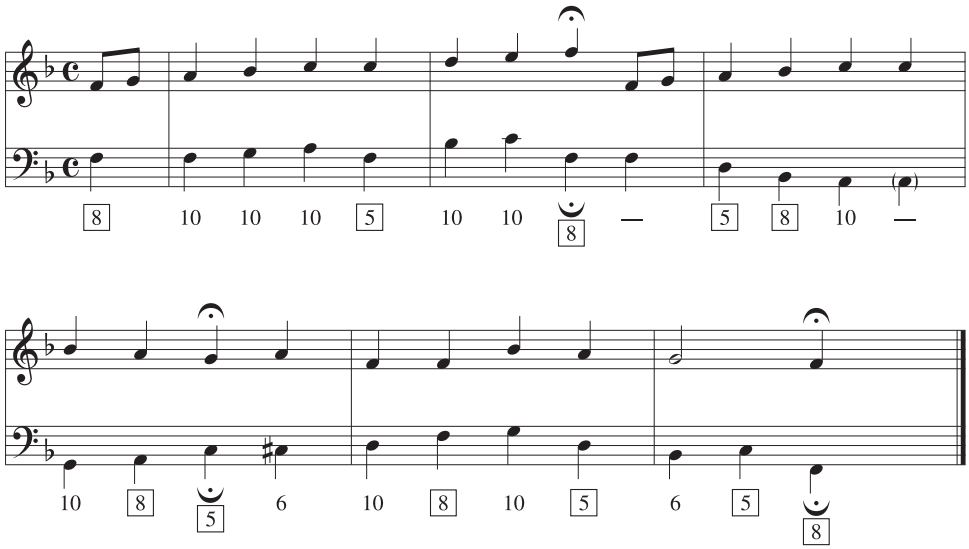
(b) adaptation

Species Counterpoint

1. ***Stability and Motion.*** To study harmony and voice leading is to study how chords and lines interact. Principles governing the linear dimension of music are old and for centuries were the primary means used by composers to organize polyphonic compositions. Consider Example 5-1a, which shows the opening of a chorale setting by Bach. The texture is hymnlike, consisting of a series of chords that change almost every quarter note. The linear dimension is not as prominent as in a fugue or an invention, but it nonetheless plays an essential role in the structure of the composition. Example 5-1b shows a reduction (involving only the outer voices), a note-against-note framework arising from a combination of lines and from a succession of chords. Consider now that Bach uses only perfect and imperfect consonances in the succession of intervals. The perfect consonances (indicated in boxes) occur mostly at beginnings and ends of phrases, where they promote stability. The imperfect consonances, on the other hand, are fluid and less stable; they foster motion in the middle of phrases.

2. ***Free versus Strict Composition.*** Bach's Chorale setting is a tonal composition based on both harmonic and contrapuntal principles. Such pieces from the literature are referred to as *free* compositions. For the purposes of teaching and codifying compositional practice, musicians developed an abstract, *strict* approach to counterpoint dealing specifically with the linear, horizontal, dimension—with the combination of lines and associated successions of intervals. This method, presented for pedagogical purposes in "steps," is known as *species counterpoint*. Each species involves a central topic and an increasingly complex rhythmic organization in the combination of lines; Example 5-2 illustrates some common patterns from each of the five species:

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First species: Note against note (the organization of consonances)

Second species: Two notes against one (the passing tone, P)

Third species: Four notes against one (the neighbor note, N)

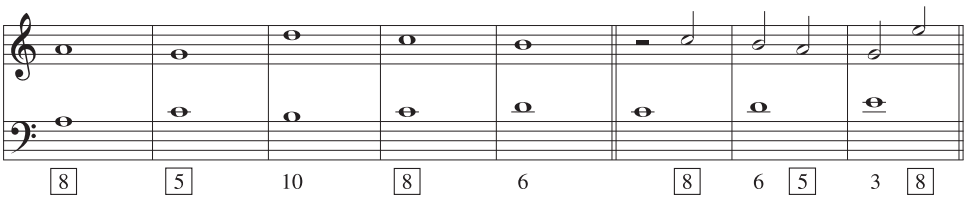
Fourth species: Syncopation or rhythmic displacement (the suspension, susp.)

Fifth species: *Florid* counterpoint (combining the note values of second, third, and fourth species)

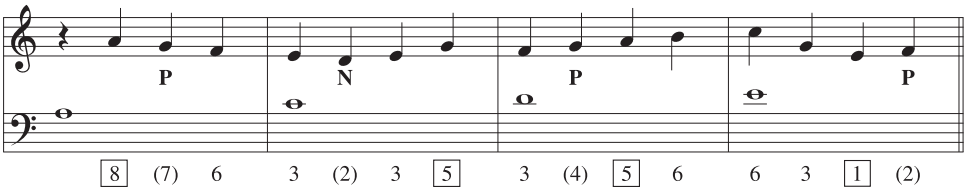
5-2 *the five species of counterpoint*

(a) first species

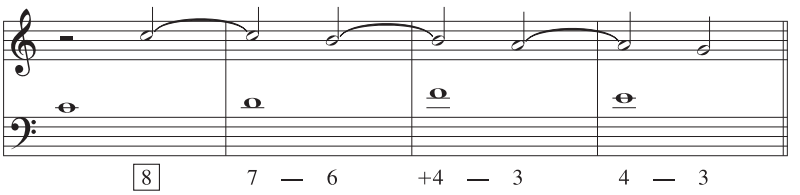
(b) second species



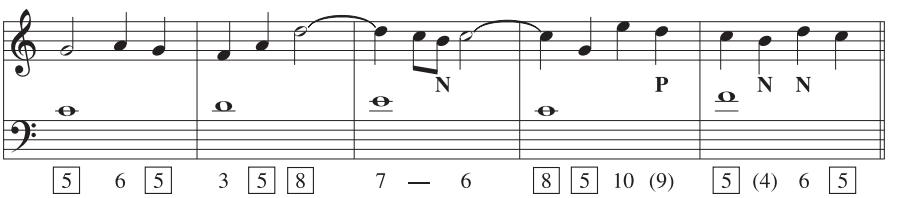
(c) third species



(d) fourth species



(e) fifth species



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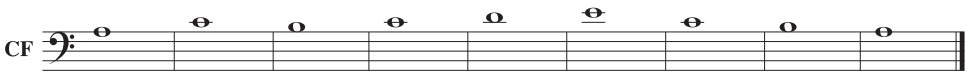
Cantus Firmus

3. *The Cantus Firmus as Counterpoint's Melodic Basis.* Before turning our attention to the principles of first-species writing, first examine a *cantus firmus,* a melody to which counterpoints are composed (sometimes above and sometimes below the cantus firmus).

In free compositions, a cantus firmus (CF) is often a preexistent line, such as a chorale tune or other melody. In strict counterpoint, the cantus is more abstract, representing in embryonic form the essential characteristics of an "ideal" melodic line. Example 5-3 presents a cantus firmus in the strict style.

5-3 *cantus firmus*

Above all, the cantus firmus (and contrapuntal lines in general) should be fluid and easy to sing. The cantus in Example 5-3 is such a line and proceeds mostly by steps, with a few small leaps incorporated for variety. A line that consists primarily of steps, with skips carefully controlled, is said to have *melodic fluency*. Melodically fluent lines characterize not only species-counterpoint exercises but also more complex lines in the "voices" of freer textures.

4. *Shape of the Line.* Now examine the *shape* of the cantus firmus, noting the gradual rise of the line from the beginning to a high point (climax) followed by a descending motion to the end of the line, which is known as the *cadence* (from the Latin *cadere,* meaning to fall). The aspect of direction is an important consideration in counterpoint. In general, ascending motion creates musical *tension* and initiates the development of musical content, while descending motion fosters *repose* and a dissipation of tension. This is why it is best for an upper counterpoint to approach a cadence by descending step. The descent must be by step, as a leap would create tension that could not be resolved, since we have reached the end of the cantus firmus.

The cantus firmus in Example 5-3 does not simply move up and down by step in the manner of a scale; a leap of a 3rd occurs before and after the high point. Leaps promote variety but must be carefully integrated into the line because they create tension and are more difficult to sing in tune than steps (the larger the leap, the more difficult). At the beginning of Example 5-3, the upward motion of a 3rd is counterbalanced by a descending step before the line resumes its stepwise ascent to the climax (bar 6). A *change of direction* is consequently another means of attaining variety. After a large leap, a change of direction accompanied by stepwise motion counterbalances the melodic gap in the line. Although more can be said about cantus firmi in general, the following guidelines should be sufficient for our introduction to counterpoint[1]:

[1]Although some cantus firmi begin with descending motion, most do not. Our guidelines apply to the majority of cantus firmi that begin with ascending motion.

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Permissible Melodic Intervals

1. Major and minor 2nds (steps)
2. Major and minor 3rds
3. Perfect 4ths and 5ths
4. Major and minor 6ths
5. Perfect octaves (the largest possible leap)

Impermissible Intervals

1. 7ths
2. Augmented or diminished intervals

Characteristics of Melodic Fluency

1. Motion is mostly stepwise.
2. Leaps are used sparingly to achieve variety and to relieve stepwise motion.
3. Ascending motion and leaps create tension in the line.
4. Descending motion and steps foster repose and the dissipation of tension.
5. No immediately repeated or sustained tones are used, as they would create a static area that would throw the line out of balance.

Shape and Variety

1. The cantus firmus should begin and end on the tonic; the best motion to a cadence is by descending step.
2. The line should lead to and from a climax (high point), which serves as an intermediate goal and from which the line leads toward the cadence.
3. The high point can occur shortly after the beginning of the cantus, or somewhere close to the middle. If it occurs too close to the end, the line is forced to leap into the cadence, a move that does not produce the desired dissipation of tension.
4. As mentioned, leaps and change of direction promote variety. In general, the limit is two to three leaps in a line, unless the cantus is unusually lengthy. Avoid two consecutive leaps in the same direction.
5. The interval of a 3rd is neutral, but after the leap of a 4th, 5th, 6th, or an octave, it is best to reverse direction and move by step.

First Species

5. Organization of Consonances. First-species counterpoint (note-against-note) demonstrates how consonances alone can form logical and coherent tonal frameworks. The permissible vertical intervals are major and minor 3rds, perfect 5ths, major and minor 6ths, and perfect octaves. As discussed in Unit 2, the perfect 4th functions as a dissonance in much two-part writing; it is thus excluded from first-species two-part counterpoint. Spacing of voices should

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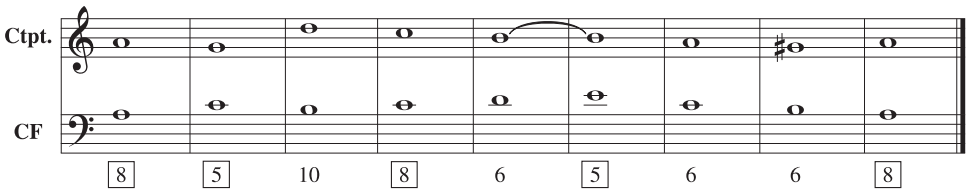
not be too wide. In general, keep the two voices no further than a 10th apart, except briefly and for a good reason, such as the added voice rising to a climax while the cantus firmus descends. Example 5-4 shows a counterpoint to the cantus firmus discussed earlier.

5-4 *first-species exercise*



6. Beginnings and Cadences. We address beginnings and endings (cadences) first because they must clearly *establish the key* and they must provide *maximum stability*—points from which music can develop and toward which tonal motion can conclude. In this respect, beginnings and cadences tend to be strictly defined, even stereotypical.

Examine the cadence. The cantus firmus we have discussed concludes with the motion $\hat{2}$-$\hat{1}$. To ensure tonal stability, the counterpoint must conclude with $\hat{7}$-$\hat{1}$. This means that a unison or an octave occurs in the final bar. If you think about it, this condition makes good musical sense. Scale degrees $\hat{2}$ and $\hat{7}$ are the tones *closest* to the tonic—those with the greatest tendency to move to $\hat{1}$. When we begin our study of harmony, you will see how this contrapuntal requirement applies to harmonic cadences. In short, scale degrees $\hat{2}$ and $\hat{7}$ must appear in the penultimate bar, and the tonic must be in both voices in the final bar. Bear in mind also that exercises in the minor mode use the *natural minor* form of the scale until the approach to the cadence, at which point scale degree $\hat{7}$ (and sometimes $\hat{6}$) must be raised so that the leading tone occurs in the next-to-last measure.

Beginnings have more flexibility than cadences, although the goals are the same for each (stability and key definition). Example 5-4 shows an octave as the first interval; the upper counterpoint may also begin with a perfect 5th.[2] Bear in mind that the *tonic must appear in the lowest voice,* which establishes the key from the outset of the exercise. Now examine the middle of the exercise, noting the types of relative motion between the counterpoint and the cantus firmus. The voices move in *contrary motion* in bars 1–2 and bars 2–3. Contrary motion, where one voice moves up and the other down, promotes independence of line because the voices move in different directions. In bars 5–6, the counterpoint holds as the cantus firmus moves. This is known as *oblique motion* and is useful for establishing melodic independence.

[2]The unison is theoretically possible but is not common because of overlapping that would occur with most rising cantus firmi. A good rule of thumb, therefore, is to begin with an octave or a 5th when the counterpoint is in the upper voice.

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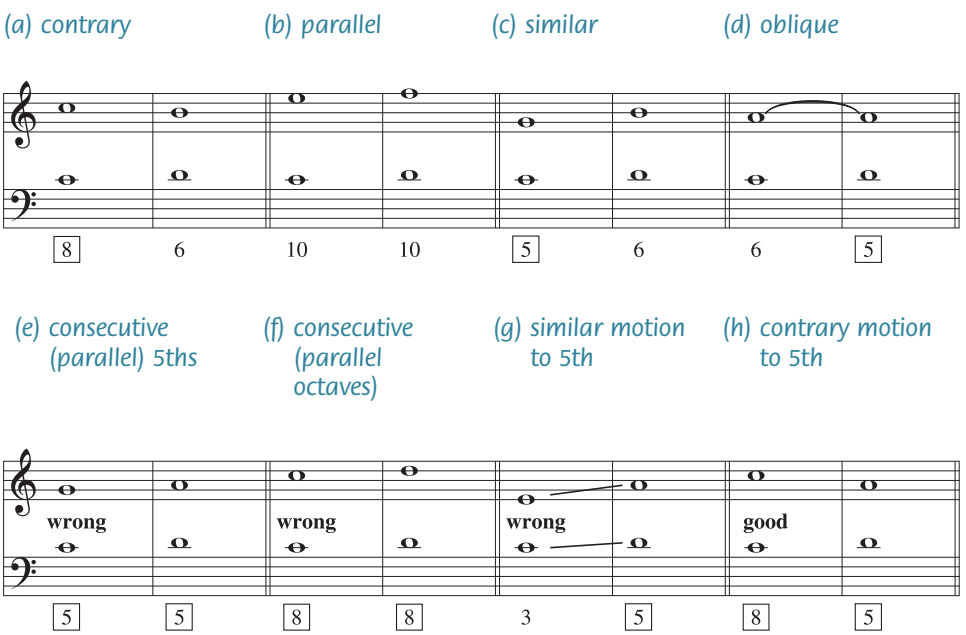
7. Types of Motion. In bars 7–8, two 6ths occur in succession and represent an example of *parallel motion*. Used sparingly, this type of motion fosters a fluid sound. Used in excess, parallel motion can undermine the independence between the lines because they are moving in the same direction for too long; in effect, the counterpoint "shadows" the cantus firmus. A general rule (the "rule of three") is to use no more than three parallel intervals in succession. Example 5-5 summarizes the types of relative motion (in *similar motion,* the lines move in the same direction but use different intervals). As you study the example, keep these points in mind:

1. Contrary motion: Voices move in different directions. This is best for fostering independence of lines.
2. Oblique motion: One line holds as the other moves. This allows one line to "pause" and promotes independence of lines.
3. Parallel and similar motion: Voices move in the same direction. This leads to a fluid, harmonious sound but can undermine the independence of lines if it is used in excess (no more than three parallel intervals in succession).

5-5 *relative motion between lines*



Notice that consecutive (parallel) unisons or octaves do not occur in our first-species exercise (or in any of the later species). These perfect intervals are stable; used in succession, they can undermine the independence of lines. Consecutive (parallel) 5ths are also excluded (Example 5-5e). As explained in Unit 2, Section 7, the interval of a 5th defines the lower note as the root of a triad; if we hear C-G, we know immediately that C is a root, which suggests

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that C could be a tonic. This gives the 5th a strong vertical stability that can interfere with the forward motion of the voice leading and obscure the key. Beyond this general prohibition, the perfect intervals warrant additional consideration. The perfect unison, 5th, or octave may occur at the beginning of an exercise, but only the unison or octave may appear at the cadence; in the middle of an exercise, 5ths and octaves may be used occasionally, although they must be approached through either contrary or oblique motion, a strategy that helps soften their stability (Example 5-5h). Unisons are used only at the beginning and in the final bar. In general, avoid more than three perfect consonances in the middle of a contrapuntal framework.

Now examine the shape of the counterpoint (Example 5-4) and notice how it unfolds relative to the cantus firmus. A possible first move is to lead the counterpoint upward, the direction associated with the development of musical content. If we take this course, the counterpoint is forced to leap *in the same direction* as the rising cantus firmus to attain a consonant interval in the second bar. While not incorrect, this move does not establish independence of lines. Instead, therefore, we lead the counterpoint down by step in contrary motion before leaping up a perfect 5th to the high point. (Like a cantus firmus, a counterpoint must have a climax, but the two high points should not coincide.) The line then descends by step to the cadence, a strategy that counterbalances (and fills in) the previous leap of a 5th. Notice that oblique motion in bars 5–6 allows the line to pause, preventing it from arriving at the cadence too soon (before the cantus firmus has run its course).

The counterpoint, therefore, has a clear beginning, a good cadential motion, and a high point that serves as an internal goal. It is melodically fluent and exhibits variety by the use of a large leap followed by a change of direction. Its musical logic is also good. As the counterpoint begins its descent in bar 3, the cantus firmus "counters" with a stepwise ascent in contrary motion. The two lines meet purposefully at the cadence.

In an ideal musical context, counterpoints would resemble cantus firmi in all respects. When we combine lines, vertical considerations are also necessary, such as the balance of the various types of motions, the requirement of consonance, and the restrictions of cadential formulas. Consequently, a counterpoint is allowed certain "licenses" that do not apply to cantus firmi. For example, it is possible to sustain tones and even leap twice successively in the same direction (be careful not to outline a dissonant interval through two leaps). In general, though, counterpoints adhere to the same basic principles that apply to cantus firmi.

Example 5-6 shows an exercise with the counterpoint in the lower voice, which we present without commentary, except to note that the unison often makes an excellent beginning interval for a lower counterpoint. The other possible beginning interval is the octave below the cantus; the 5th below would not establish the key (the tonic must be the lowest note). The climax may be either the lowest or the highest tone; otherwise, the principles we discussed earlier also apply to counterpoints beneath a cantus firmus.

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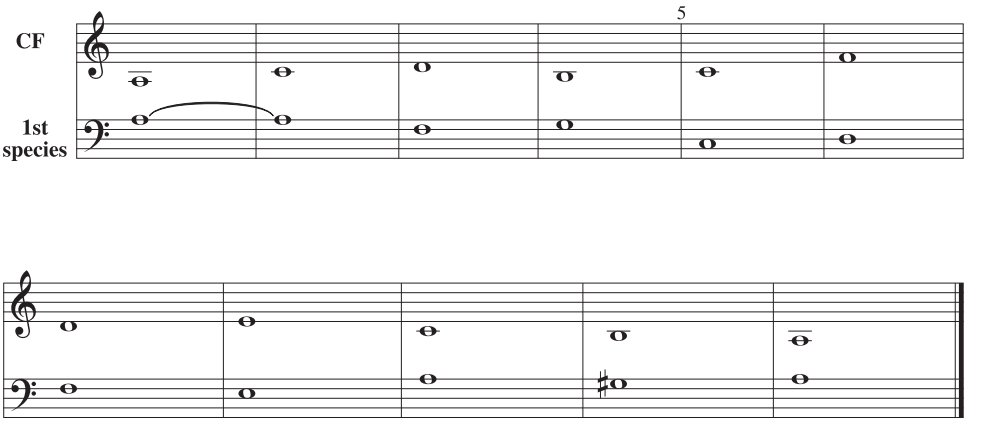
5-6 *first-species counterpoint in lower voice*

8. Synopsis of First-Species Counterpoint

1. Permissible vertical intervals are major and minor 3rds, perfect 5ths, major and minor 6ths, and perfect octaves. Unisons may occur *only* at the beginning or at the end. Excluded vertical intervals are all 2nds, all 7ths, all augmented and diminished intervals, and the perfect 4th. Except occasionally and for a good reason (perhaps to establish the high point), do not use intervals larger than a 10th.
2. Cadences use scale degrees $\hat{2}$ and $\hat{7}$ in the penultimate bar; the last bar contains the tonic in both voices.
3. Beginnings may involve a 5th or an octave with the cantus firmus in the upper voice or a unison or an octave with the cantus firmus in the lower voice. The tonic *must* be in the lower voice.
4. As in a cantus firmus, the counterpoint must move to and from a high point. Do not let the climax coincide with that of the cantus firmus.
5. Relative motions include contrary, oblique, parallel, and similar. Oblique motion means that a note may be tied or repeated. Do not sustain a note for more than two bars.
6. Do not use consecutive (parallel) unisons, 5ths, or octaves. The approach to a single 5th or octave must occur by either contrary or oblique motion (any type of motion may *follow* a perfect interval).
7. Avoid outlining dissonant intervals with two leaps in the same direction.

Second Species

9. Passing Tones and Other Idioms. Let us now return to free composition and to a passage from a minuet often attributed to Bach but actually by his contemporary Christian Petzold (Example 5-7). Examine the vertical intervals, and you will discover that note-against-note consonances appear on the first beat of

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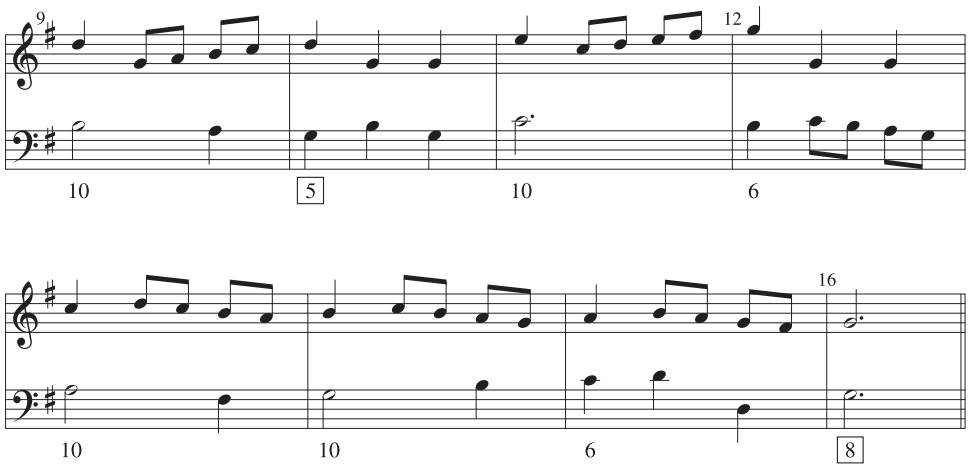
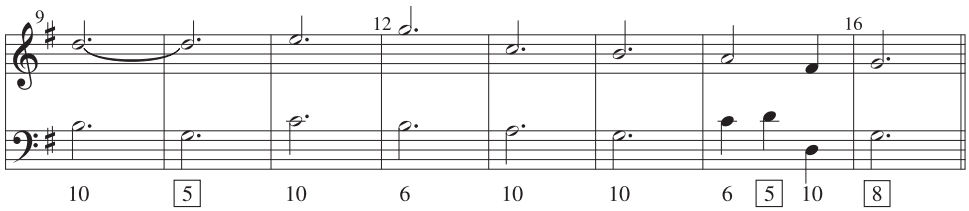
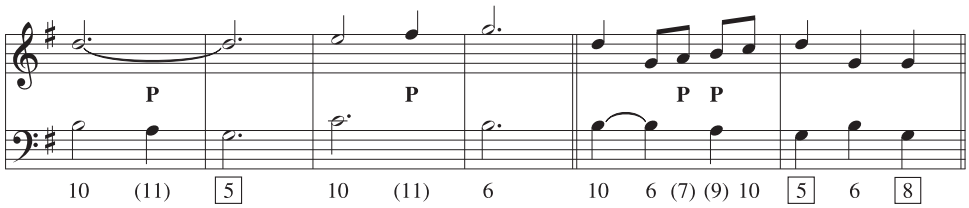
each measure, a succession that makes a good first-species framework: 10-5-10-6-10-10-6-8. Example 5-8a presents a contrapuntal reduction (we include more notes at the cadence, where the rhythm of the phrase accelerates).

5-7 *Petzold, Minuet* *(Bach, BWV Anhang 114)*

5-8 *Petzold, Minuet, reductions*

(a)



(b) *(c)*



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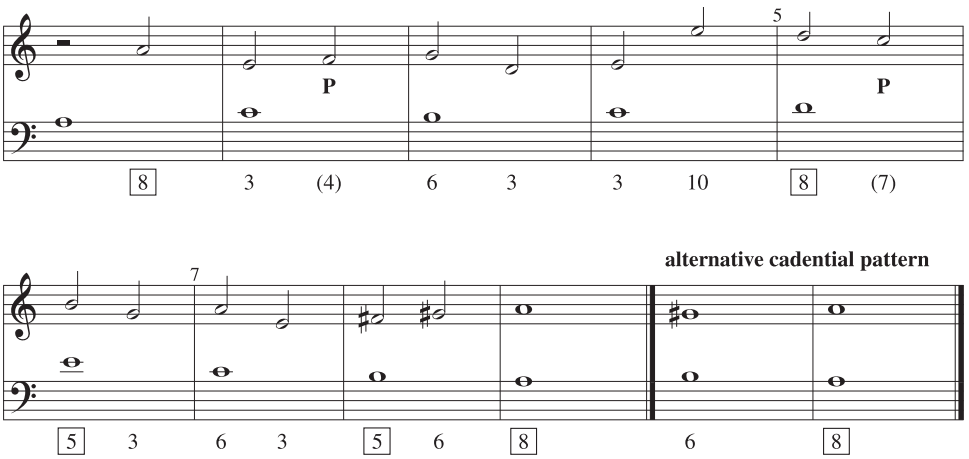
Notice the largely stepwise motion of the upper voice, the predominance of imperfect consonances, and the ascent to the climax in bar 12, all of which characterize good first-species writing. In the subsequent reductions, we consider also the motions *within* the measures. You can see instances of two notes against one that *elaborate* the note-against-note framework. In Example 5-8b, quarter notes connect the consonances on the downbeats, and in Example 5-8c, eighth notes further enliven a texture based essentially on consonances.

These "tones of figuration" occur on rhythmically weak parts of a beat or measure and are called *passing tones*. The second species of counterpoint introduces passing tones and other idioms involving the second half note. Bear in mind that these figurative tones are not merely inserted into a first-species framework but should form an integral part of a coherent and melodically fluent line in quicker note values. Example 5-9 illustrates.

5-9 *second-species counterpoint*



In contrast to the undifferentiated whole notes of first species, two notes against one create a distinct rhythmic pattern. The initial half note, which coincides with the sounding of the cantus-firmus tone, is considered *strong;* the second half note is therefore *weak*. A requirement of second-species writing is that a consonance must occur on the strong first beat of all measures. Before examining additional functions of the second half note, first consider the cadence and the beginning of the exercise.

As in the first species, the penultimate bar must contain both scale degree $\hat{2}$ and scale degree $\hat{7}$. If the leading tone is part of the second-species line, it must appear on the second half note (Example 5-9, bar 8). Another possibility, shown after the main exercise, is the cadence pattern from first species. Both are good, though the first is slightly better because the half-note rhythm of second species continues to the final bar (where whole notes must occur).[3] Note also that because the cantus firmus is in the natural minor mode, scale degrees $\hat{6}$ and $\hat{7}$ of the counterpoint must be raised as the line approaches the cadence (conforming to the melodic minor scale).

[3]Some cantus firmi carry the leading tone, in which case the counterpoint must supply scale degree $\hat{2}$.

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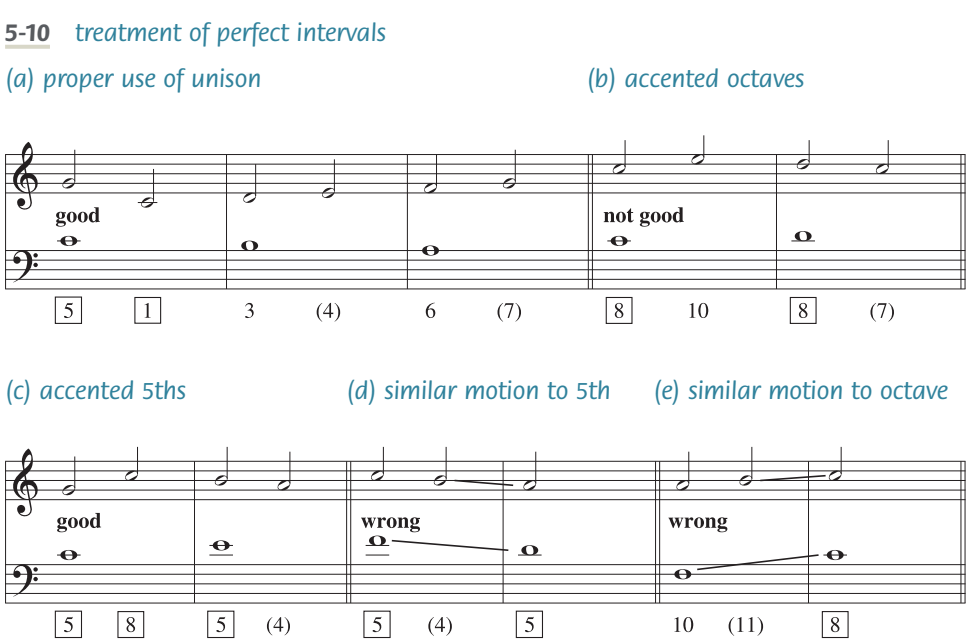
The beginning of the exercise is restricted to the same intervals used in first species: a 5th or an octave in the upper counterpoint and a unison or an octave for a lower voice. The first measure may begin with either one or two half notes; our example shows one half note after a rest. This is the preferred beginning because the delayed entry underscores the half-note rhythm characteristic of second-species writing.

Now examine the function of the second half note in bars 2 and 5. The moving line results in dissonant intervals with the bass, a 4th and 7th, respectively; in both cases, the line continues *by step in the same direction*. A dissonance that occurs on the weak beat and moves by step in the same direction is a passing tone. In second-species counterpoint, a dissonance may occur only as a passing tone on the second beat of a bar; all other intervals must be consonant with the cantus. The passing tone exemplifies a basic tenet of tonal music: the stepwise resolution of dissonances helps dissipate tension.

In bar 3, the line leaps from G to D, resulting in a 6th and a 3rd with the bass; this idiom is referred to as a *consonant skip* because the line skips from consonance to consonance within the measure. You will quickly discover that a line composed entirely of steps and small leaps becomes monotonous and appears to wander aimlessly. The leap of an octave in bar 4, however, promotes variety in the line by effecting a *change of register*. In general, large leaps (5ths, 6ths, and octaves) establish a new point of departure for the line in a different register. In Example 5-9, the leap of an octave establishes the climax of the second-species line.

10. *Synopsis of Second-Species Idioms.* Example 5-10 illustrates additional second-species idioms, which we elaborate upon briefly here.

5-10 *treatment of perfect intervals*



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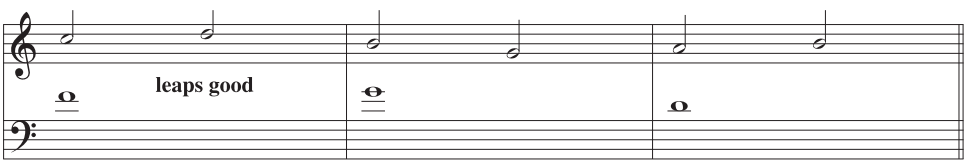
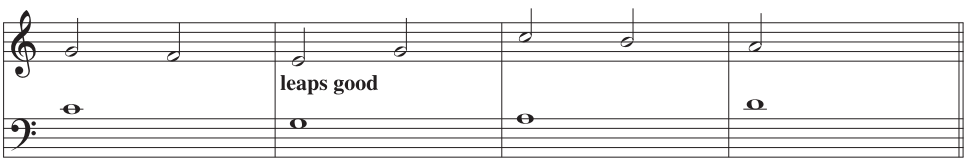
Unison. The first pattern (Example 5-10a) shows how the unison functions in a second-species line. As mentioned, the unison is not used in first species except at the beginning and at the end. The oblique motion of two notes against one makes the unison less obtrusive, but only on the *second* half note. After the unison, the counterpoint should reverse direction and move by step across the bar.

Accented Octaves and 5ths. We have already mentioned the prohibition, in first species, of consecutive 5ths and octaves. In second species, perfect octaves and 5ths also require careful treatment, even with an intervening half note. The octave is more sensitive than the 5th and should not appear on successive downbeats (accented octaves). Accented 5ths are acceptable if the second 5th arises through stepwise motion after a change of direction (Examples 5-10b and c).

Similar Motion to Perfect Intervals. Similar motion to a 5th or an octave (from beat 2 to beat 1 across the bar) creates the same problem as in first species and is prohibited (Examples 5-10d and e). Only contrary motion is possible, because the moving cantus firmus prevents oblique motion *across* the bar.

Leaps across the Bar. A large leap across the bar (from a weak to a strong beat) can obscure the function of the second half note. As part of triadic arpeggiation, however, a leap across the bar sounds convincing because it is part of a broader, unified motion (Example 5-11a). It is best to approach and leave arpeggiations by step and through a change of direction. The best single leap across the bar is a 3rd (Example 5-11b), followed by stepwise motion and a change of direction (continuing the same direction after the leap is occasionally possible with this small interval). A 4th across the bar must be followed by stepwise motion and a change of direction. Single leaps of a 5th, 6th, or an octave are not good and should be avoided.

5-11 *treatment of leaps and arpeggiations*

(a) arpeggiation



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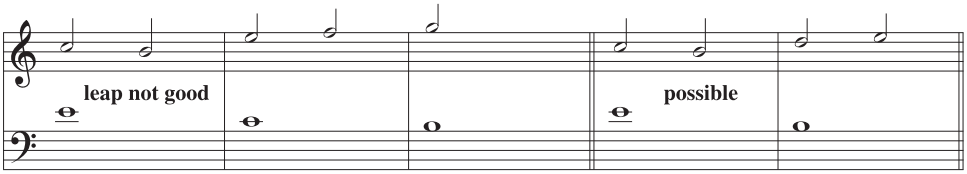
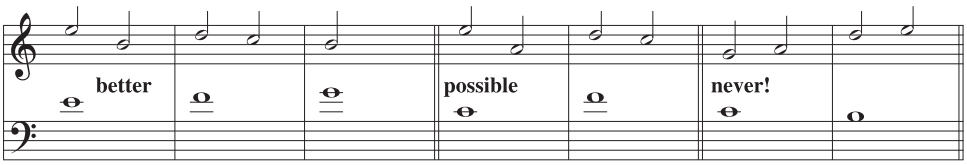
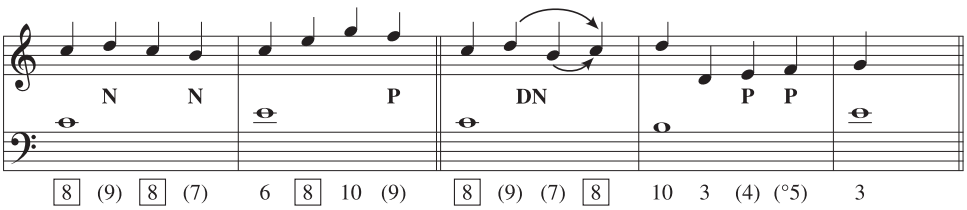
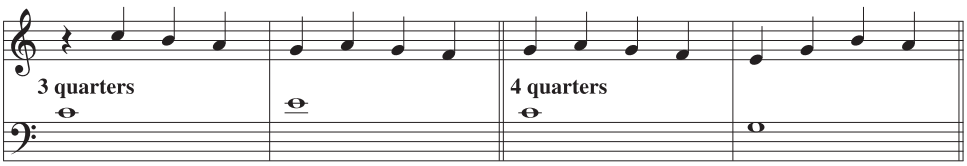
(b) single leap across bar

Third Species

11. Neighboring Tones. Whereas a primary issue of second species is the dissonant passing tone, third-species counterpoint also includes the *neighbor note* (Example 5-12).

5-12 *third-species idioms*

(a) neighbor figures *(b) double neighbor*



(c) beginnings

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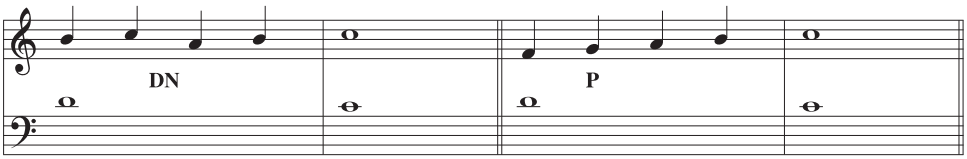
(d) cadences



In third species, four quarter notes in the counterpoint occur against one whole note in the cantus firmus. As in second species, the interval on the downbeat (in this context, on the first quarter) must be consonant. The second, third, and fourth quarters may be consonant or dissonant (the third quarter is slightly stronger). In the pattern shown in Example 5-12a, a dissonant 9th and 7th decorate C as upper and lower neighbor notes, respectively. Notice that, unlike a passing tone, a neighbor note *returns* to the note it decorates and consequently slows the overall motion of the counterpoint.

In most cases, the treatment of dissonance is the same in third as in second species: the dissonant neighbor is approached and left by step. The pattern in Example 5-12b, a double neighbor, shows an apparent exception to the requirement of stepwise resolution because the 9th leaps into the 7th, which then moves to C. The exception, however, is more apparent than real. The arrows show that both D and B resolve to C. (A "missing" third-beat C would restore normal resolution of the first neighbor but would also yield a five-note figure.) This is the first instance in strict counterpoint of a *nonadjacent* relationship between tones based on stepwise motion.

The patterns in Examples 5-12c and d show typical beginnings and cadences, respectively. To establish the characteristic rhythm of third species, the preferred beginning is a rest followed by three quarter notes, although four quarters are a possibility. The requirement for the cadence is the same as in first and second species. The *final* interval heard in the penultimate bar must contain scale degrees $\hat{2}$ and $\hat{7}$. If the leading tone appears on the first quarter, it must recur on the fourth.

In our discussion of second species, we mentioned that octaves or 5ths on consecutive downbeats are not good (one intervening half note is not sufficient to mitigate the effect of these successions). In third species, the presence of three notes separating consecutive downbeats softens the effect of accented 5ths and octaves (5ths and octaves on consecutive downbeats). This foreshadows the frequent use in free composition of prohibited parallels broken up and corrected by the intervention of other intervals. Both 5ths and octaves from third to first quarter, with only one note between, remain excluded—as, of course, are immediately consecutive perfect intervals from fourth to first quarter. Afterbeat 5ths and octaves are permitted; Example 5-13 illustrates.

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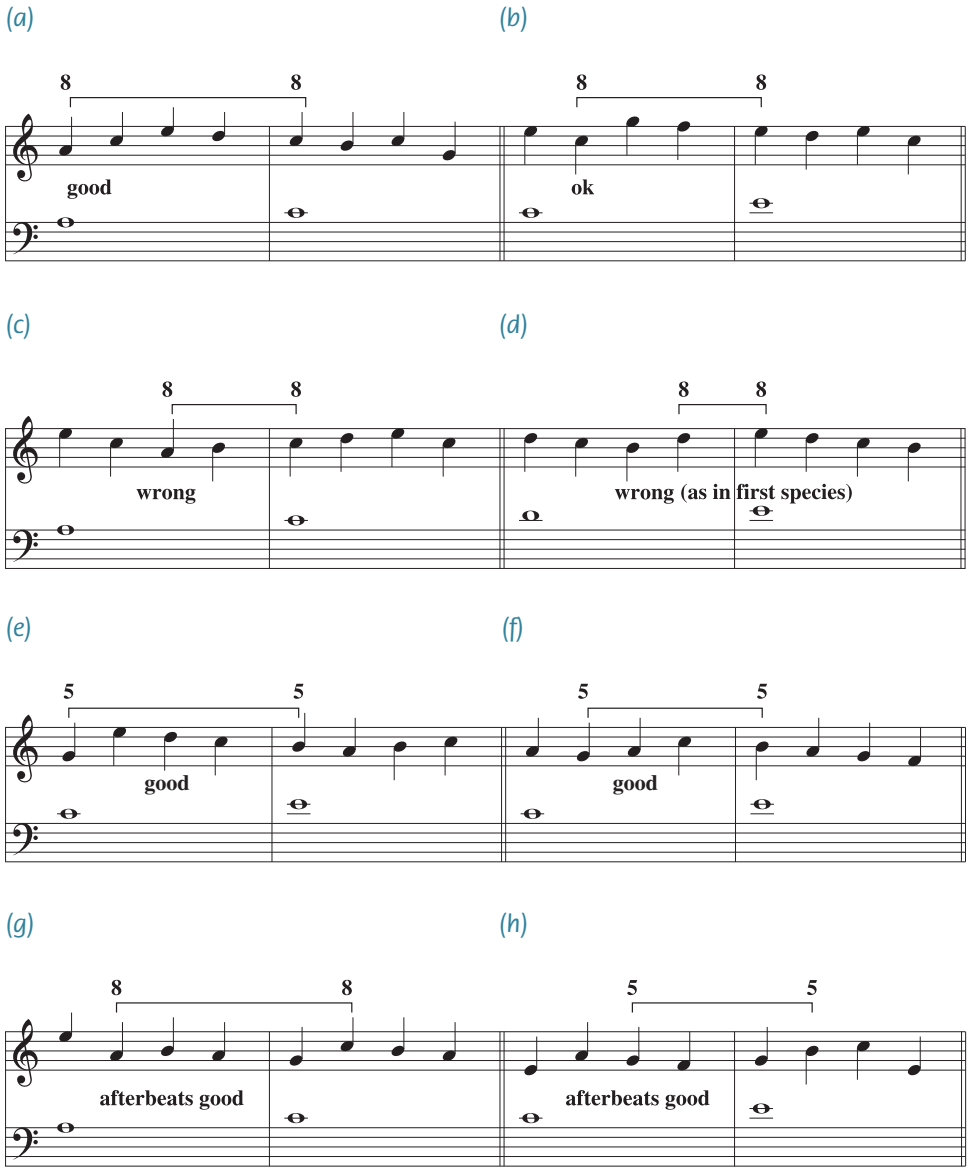
5-13 *accented and unaccented octaves and 5ths*

As in second species, it is important in third species to treat single leaps across the bar with care. The suggestions for second-species lines also work for those in third (review Example 5-11). Two leaps in the same direction (triadic

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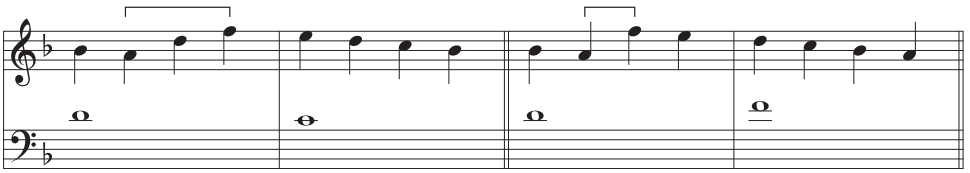
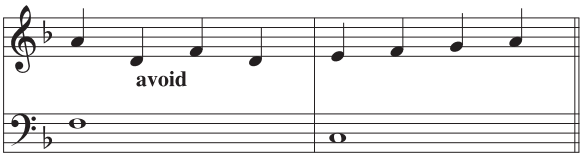
arpeggiations), while not incorrect, should be used sparingly (Example 5-14a). As the brackets indicate, it is possible to think of an arpeggiation as representing the expansion of a single large leap; followed by a change of direction and stepwise motion (as in second species), a large leap is often useful for promoting variety in a contrapuntal line. Because of the quicker note values, however, liberal use of arpeggiations can make the line sound disjointed; arpeggiations also impart an instrumental character to contrapuntal lines, which should be easy to sing. For this reason, the idiom shown in Example 5-14b (a common instrumental pattern) should be excluded.

5-14 *consecutive leaps in third species*

(a)

(b)



12. *Balance.* The greatest difficulty in writing a third-species line is producing one that is aesthetically pleasing. It is necessary, above all, to secure a balance between decorative melodic progressions that ornament a single pitch and directed motions that lead from one place to another. With the greater number of notes at your disposal, it is easier to avoid errors such as incorrectly used dissonances or forbidden parallels. But it is more difficult to fit all those notes into a coherent and purposefully moving line. Be on watch to avoid lines that hover around one place, leap, stay around the new place, and then leap again. Example 5-15 illustrates an upper and a lower third-species counterpoint that you can use as models.

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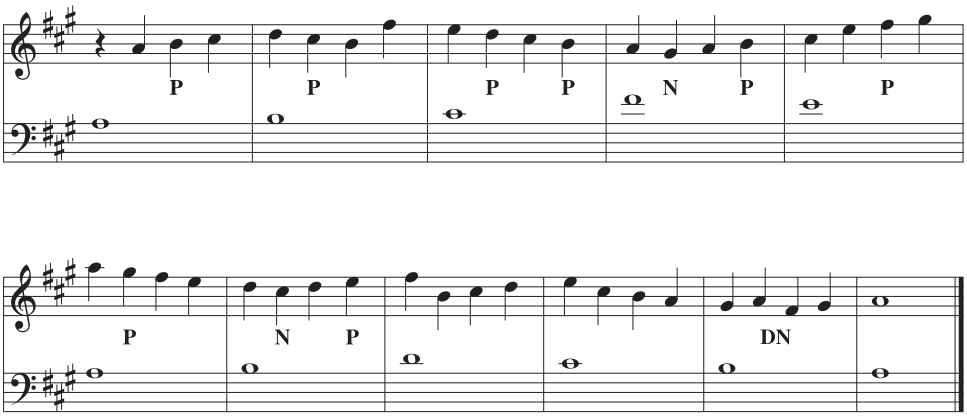
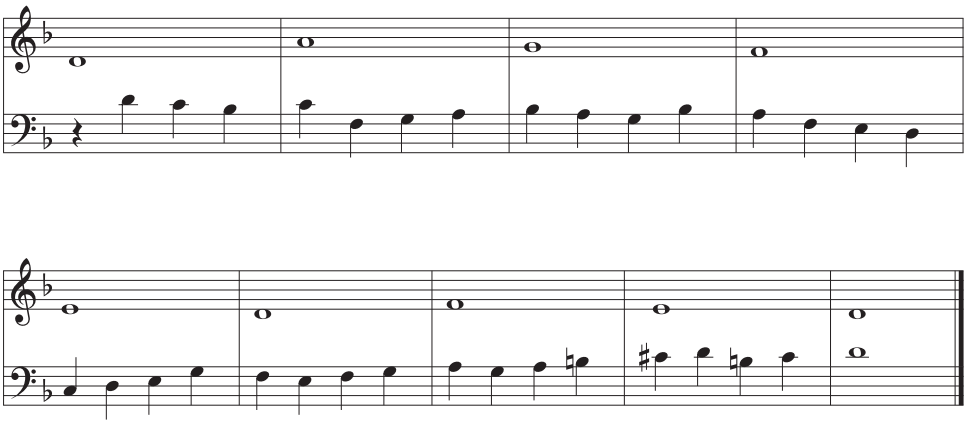
5-15 *third-species counterpoint*

(a)

(b)

Fourth Species

13. Rhythmic Factors. The dissonances we have examined thus far, passing and neighboring tones, result from melodic motion and occur on weak beats within a measure. Tonal music includes a third type of dissonance that results from rhythmic factors. Example 5-16a is from the opening of the Finale from Mozart's Piano Sonata in C minor, K. 457.

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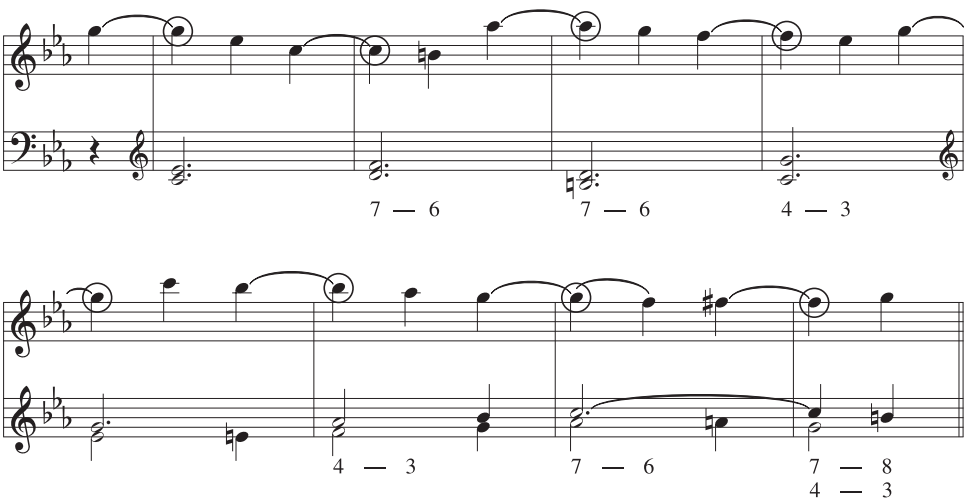
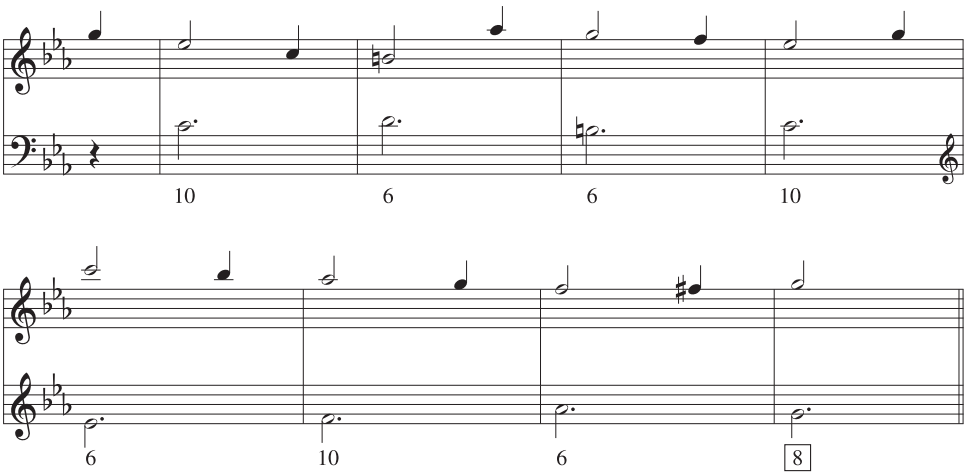
5-16 *Mozart, Piano Sonata in C minor, K. 457*

(a) score



(b) contrapuntal framework



The circled tones are tied or *suspended* across the bar, some of which form dissonances against the bass on the downbeats; on the second quarter, the dissonances resolve *down by step* to a consonance.[4] Now notice the rhythmic character of the line. Because the third quarter is held over into the following

[4]A rising 7-8 suspension appears in the last bar of the Mozart example. Upward resolving suspensions occasionally occur in freer textures.

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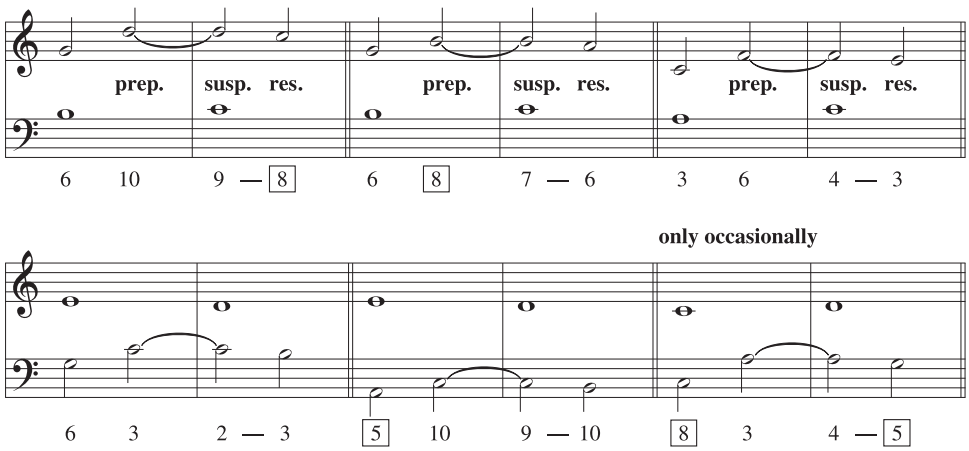
bar, the main notes in the right hand occur on the second beat of each bar, in contrast to the rhythmically strong downbeats of the left hand. A line that is rhythmically displaced in this manner (as in Mozart's original) is *syncopated.* In Example 5-16b, we remove the suspensions and realign the voices; notice the note-against-note consonances occurring now on the downbeats in both hands. Consequently, a direct relationship occurs between first- and fourth-species lines.

In strict fourth-species counterpoint, two half notes in the counterpoint occur against a whole note in the cantus firmus. The first half note (except at the beginning) occurs as a suspension from the previous measure; the second half note is tied over into the following bar. In every measure, the *second half note must be consonant.* The suspension on the downbeat may be consonant, in which case it is free to move by step or leap to the second half note. If the suspension is dissonant, it must *resolve down by step.*[5] Example 5-17a illustrates the most common dissonant suspension patterns.

Compared to third species or even second, fourth species offers fewer choices for the development of melodic lines; for that reason, it is occasionally permitted to break the species—that is, to abandon tied notes and temporarily introduce second species. Although it may sometimes help improve an otherwise poor melodic line, it is best to restrict this technique to a minimum.

5-17 *suspension patterns*

(a) dissonant suspensions

[5]The requirement for downward resolution of the dissonance represents a departure from second and third species. Because the suspension sounds on the downbeats in the cantus firmus, the dissonance is stronger than passing or neighboring tones, which occur on weak beats; downward stepwise motion is necessary to resolve the tension of this dissonance.

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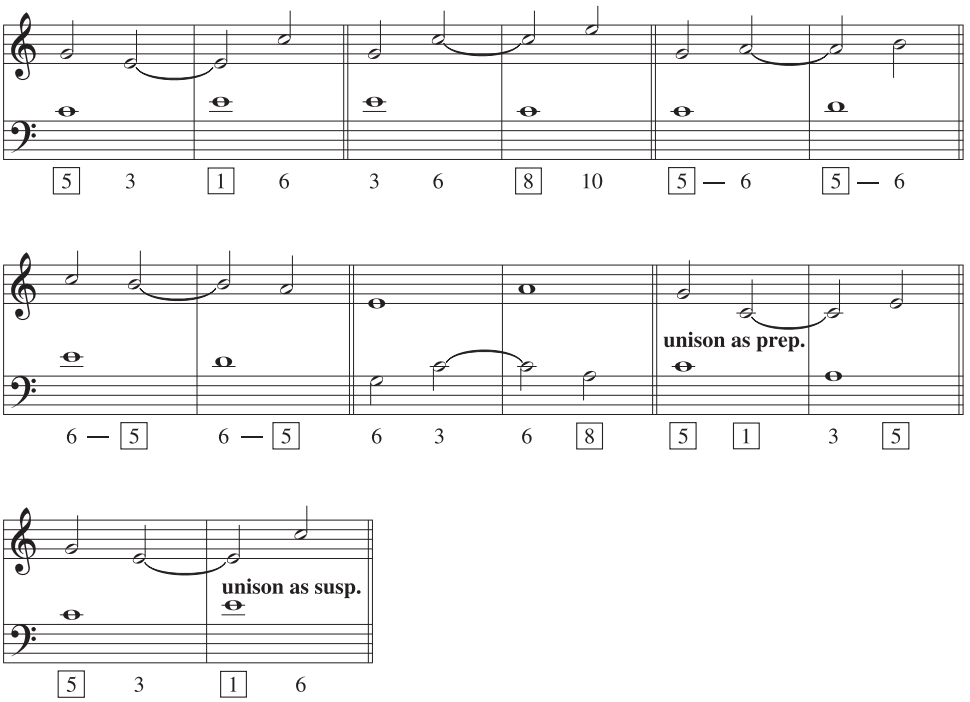
(b) consonant suspensions



The dissonant upper-voice suspension formations are 9-8, 7-6, and 4-3; the lower-voice patterns are 2-3, 9-10, and occasionally, 4-5. Dissonant suspensions are traditionally defined in three parts: preparation, suspension, and resolution. The second half note is known as the *preparation* and must be consonant. The first half note, tied over from the previous bar, is the *suspension;* it must resolve down by step into the *tone of resolution,* which also serves as the preparation for the next suspension. As mentioned, a consonant suspension has no requirement to resolve and may move by step or by leap into the second half note.

Example 5-17b lists some common consonant suspensions, which permit leaps and upward motion in the counterpoint. You can see how they are used to achieve variety in the line. The final pattern shows a unison preparation and suspension. Because of the oblique motion between the lines, unisons may appear on either the first or the second half notes, as long as the note forming the unison is held over from the previous bar or suspended into the next.

Example 5-18 shows some beginnings and cadences. The beginning intervals are the same as for the other species, and the tonic must occur in the lower voice. A half rest followed by a suspended half note is best for initiating the independence of the fourth-species line. (The fifth pattern is wrong because the tonic does not occur in the lowest voice.) Cadences are easy to remember if you recall the basic pattern of first species (Example 5-4). Scale degrees $\hat{2}$ and $\hat{7}$ appear in the penultimate bar; because the counterpoint is rhythmically displaced, the leading tone is usually shifted to the second beat. At this point, the syncopation ceases because the final measure must contain whole notes in both voices.

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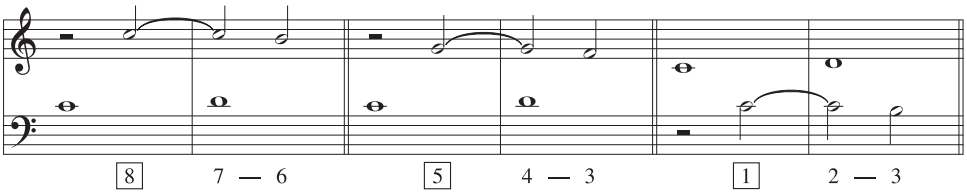
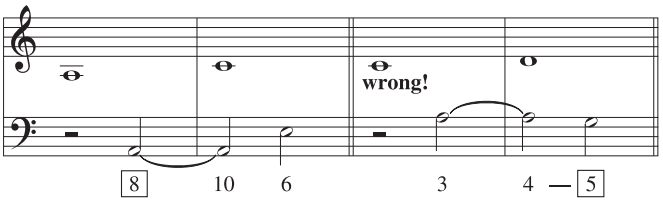
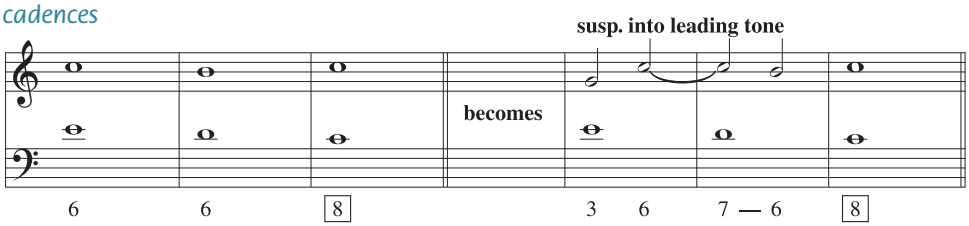
5-18 *fourth-species beginnings and cadences*

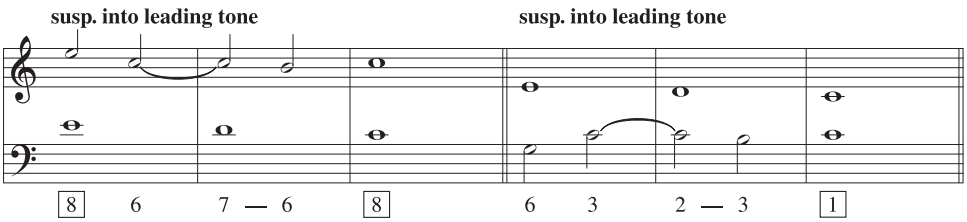
beginnings

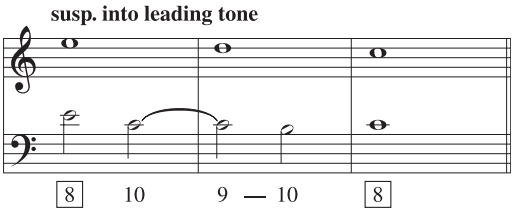




cadences







Note: The best cadence is one in which the leading tone appears in the fourth-species line on the second half note after a dissonant suspension.[6] This is most easily achieved if the cantus firmus ends with the descending motion $\hat{3}$-$\hat{2}$-$\hat{1}$.

[6]Although other cadence patterns are theoretically possible, in this introduction we suggest that the counterpoint should suspend into the leading tone.

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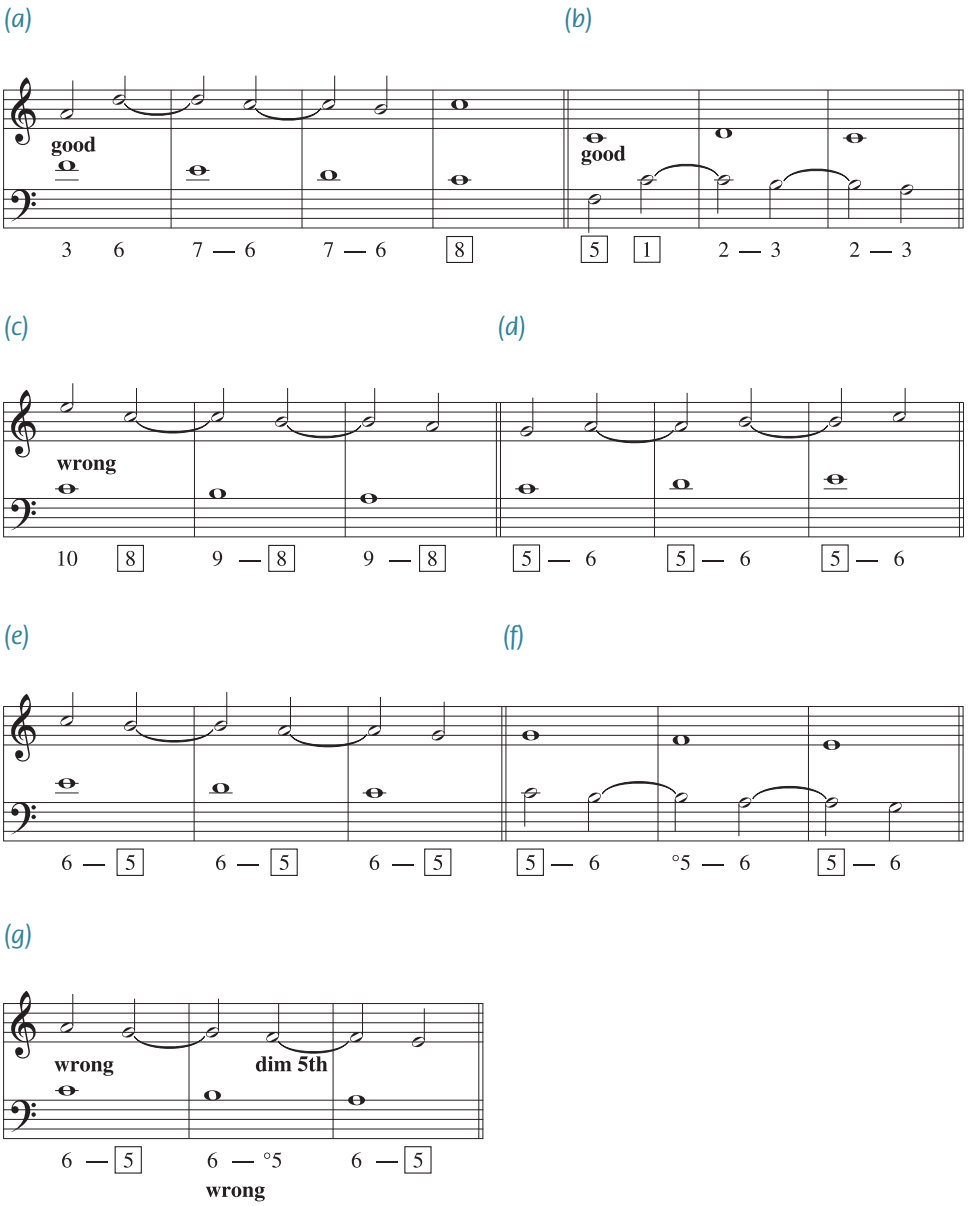
The forward rhythmic impetus of the syncopated counterpoint is often enhanced through a series of identical suspensions, which may form the approach to the cadence. The best patterns, shown in Examples 5-19a and b, are 7-6, 7-6 in the upper counterpoint and 2-3, 2-3 in the lower. The "rule of three" (parallel consonances) from first species holds for suspensions: avoid more than three consecutive suspensions of the same type.

5-19 *suspensions in series*



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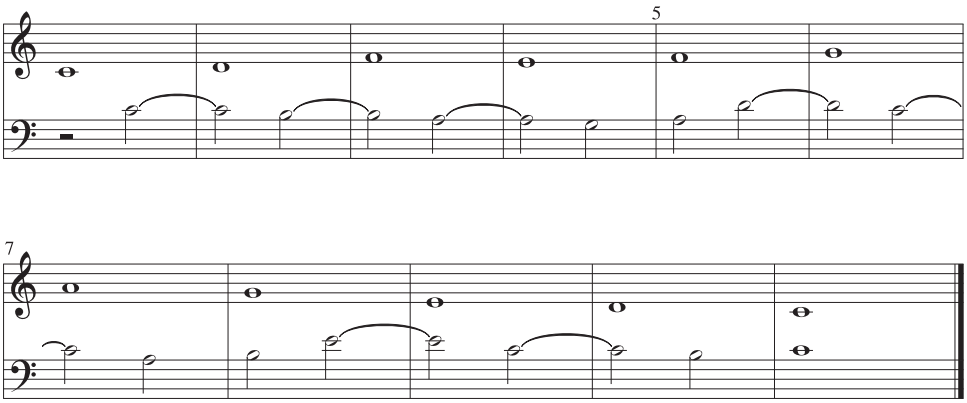
Example 5-19c shows the 9-8 suspensions in series. This progression is not good because of the octaves. Although they do not occur consecutively, the octaves are accentuated by the dissonant intervals on the downbeats. Hence, dissonant suspensions *cannot* mitigate successive 5ths or octaves (the same reasoning holds for 4-5, 4-5 in the lower voice). Only a consonance can successfully intervene between two octaves or 5ths (such as 8-6-8 or 5-3-5).

Examples 5-19d–f illustrate patterns occurring often in strict counterpoint and free compositions. Here we find consonant suspensions moving in series against the cantus firmus: 5-6, 5-6 and 6-5, 6-5. These formations are possible because a consonant interval, as mentioned earlier, considerably softens the effect of two successive perfect intervals. Example 5-19f shows the use of a diminished 5th as a suspension. Example 5-19g, on the other hand, shows a different situation. At first glance, the pattern resembles the 6-5 suspension in series. The second 5th, however, is dissonant and consequently cannot appear on the second beat (the upbeat preparation must be consonant). The "rule of three" holds for consonant suspensions: avoid more than three in a row.

Fewer good suspensions are available to the lower voice; hence, it is often more difficult to sustain a syncopated line beneath a cantus firmus (Example 5-20). The best is the 2-3 suspension and its compound equivalent 9-10. The 4-5 is possible, but the resolution into the stable 5th can sound stark in two-part writing. (The series 4-5, 4-5 is not permissible because dissonant suspensions cannot intervene between two perfect consonances.) The other theoretical possibility is 7-8, which is not permitted because the resolution of the suspension is anticipated in the upper voice, which diminishes its effectiveness. To achieve shape and variety, therefore, it is often necessary to use leaps and consonant suspensions more often than in an upper-voice counterpoint. In Example 5-20, the climax E (bar 8) is reached through two leaps initiated by breaking the species (bar 4). Notice also the unison suspension on the downbeat of bar 9, which allows the counterpoint to merge with the cantus firmus before the "drive" to the cadence.

5-20 *fourth-species counterpoint in the lower voice*



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14. Synopsis of Fourth-Species Counterpoint

1. A fourth-species line is characterized by tied half notes (syncopation).
2. The second half note must be consonant. The first tone is tied over from the previous bar and may be consonant or dissonant. If dissonant, the suspension must resolve down by step. Suspension formation is preparation, suspension, and resolution.
3. Possible dissonant suspensions in upper voice are 4-3, 7-6, and 9-8; in lower voice, you can use 2-3 (9-10) and 4-5 (occasionally). Possible consonant suspensions are unison, 3rd, 5th, 6th, and octave. Consonant suspensions are free to move by step or by leap.
4. Beginnings use a half rest followed by a half note tied over into the second bar. Cadences use scale degrees $\hat{2}$ and $\hat{7}$ in the penultimate bar. The ideal conclusion is a suspension into the leading tone (penultimate measure); the final bar must contain the tonic in whole notes.
5. Suspensions in series should be limited to no more than three in a row. Dissonant suspensions cannot intervene between 5ths and octaves; consonant suspensions, on the other hand, can successfully mitigate successive 5ths and octaves.
6. Consonant suspensions, upward leaps, and "breaking the species" are used to promote variety and upward motions.
7. Unisons occur freely as tied preparations and suspensions.

Fifth Species

15. *Florid Counterpoint.* The fifth species of strict counterpoint combines the rhythmic and dissonance patterns of second, third, and fourth species. In addition, fifth species introduces decorated suspensions and pairs of eighth notes (on either the second or the fourth quarters), which enliven the rhythmic fabric of the exercise. Our main consideration is to create rhythms that flow forward without abrupt stops and starts. This can be achieved by not allowing one kind of rhythm to persist so long that any change sounds like a disruption; furthermore, longer note values, unless suspended, should coincide with strong beats. The following guidelines will help you compose fifth-species lines with proper rhythmic development.

It is best to begin the exercise with a rest. To develop rhythmic momentum as the line goes on, it is usually more effective to start with a half rest and half note, although a beginning with a quarter rest and three quarter notes is not incorrect. Beginning with somewhat slower values and increasing the density of quicker notes helps intensify and give direction to the line. The high point could occur as a half note on the first beat or, more effectively, as a suspended half note in the second half of the measure. It is usually most effective to end the exercise, like one of fourth species, with a dissonant suspension resolving into the leading tone. Unlike fourth species, however, fifth species permits us to decorate that resolution, as shown later.

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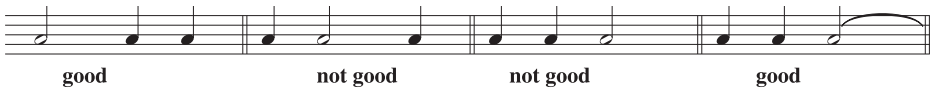
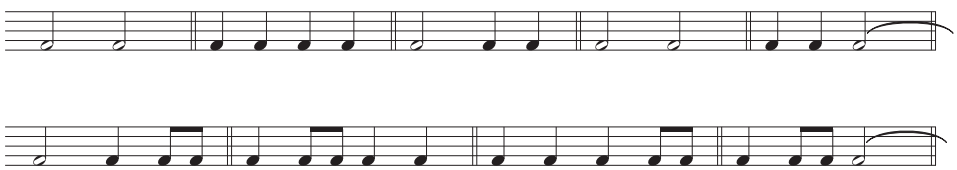
Half and quarter notes occur as in second, third, and fourth species. Unique to fifth species is the combination of halves and quarters within a bar. The possibilities are shown in Example 5-21.

5-21 *mixed note values in fifth-species counterpoint*

The first pattern is good because the half note falls on the downbeat of the measure, where its longer duration corresponds to the metrical accent. The second and third patterns are not good because they contradict the normal strong–weak rhythmic pattern and thus impede the forward momentum of the line. The suspended half note on the second beat in the fourth pattern, on the other hand, is good because it carries the line forward into the following measure. The following are the most important rules for fifth-species writing:

1. No whole notes used except in the final measure.
2. Dissonance treatment follows the rules for the species each note value represents: half notes follow the rules of second species, quarter notes those of third species, and so forth.
3. Eighth notes (perhaps best reserved for decorated suspensions) are always stepwise, occur in a weak rhythmic position (second or fourth quarters), and never appear more than two at a time. Either note may be dissonant.
4. No single note value should dominate the exercise. Therefore, never write more than two (or occasionally two and a half) measures in unvaried halves, quarters, or syncopated notes.
5. When mixed note values occur within the measure, generally keep the longer values (half notes) at the beginning of the measure and the quicker values (quarters and eighths) toward the end. In this way, the long note, which attracts an accent, coincides with the strong beat of the meter. In short, an untied half note must not occur in the second half of the measure if it is preceded by smaller note values—quarter notes or a quarter and pair of eighths; a suspended half note on the second beat, however, may follow shorter note values. Example 5-22 illustrates the possible rhythmic patterns.

5-22 *permissible rhythmic patterns in fifth-species counterpoint*

Also unique to fifth-species counterpoint are the decorated resolutions of suspensions. Example 5-23a shows a fourth-species 7-6 suspension. The remaining

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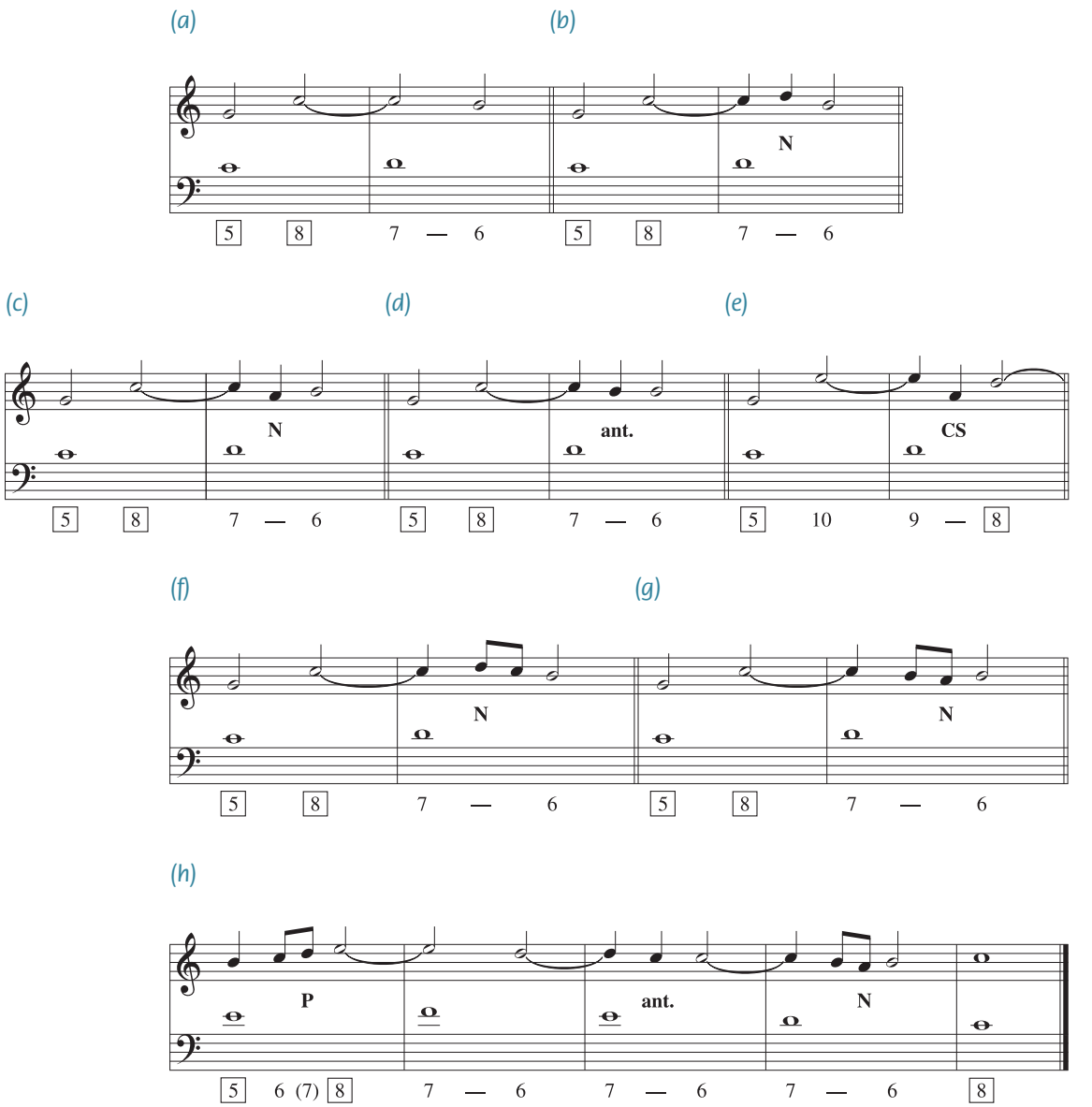
patterns in Examples 5-23b–d illustrate decorations on the second quarter. Because these tones elaborate the dissonant 7th, they must be consonant (adding another dissonance to the pattern would becloud the suspension and its resolution). The common idioms are the upper neighbor to the suspension (Example 5-23b), lower neighbor to the tone of resolution (Example 5-23c), tone of anticipation (ant., Example 5-23d), and leap to consonance (any leap must be to a consonance, CS; Example 5-23e). In these patterns, the stepwise, downward resolution of the dissonant suspension is only postponed until the third quarter, not negated by the intervening decoration. As with the double neighbor of third species, the decorated suspension represents an instance of nonadjacent association based on stepwise motion.

5-23 *decorated suspensions in fifth species*



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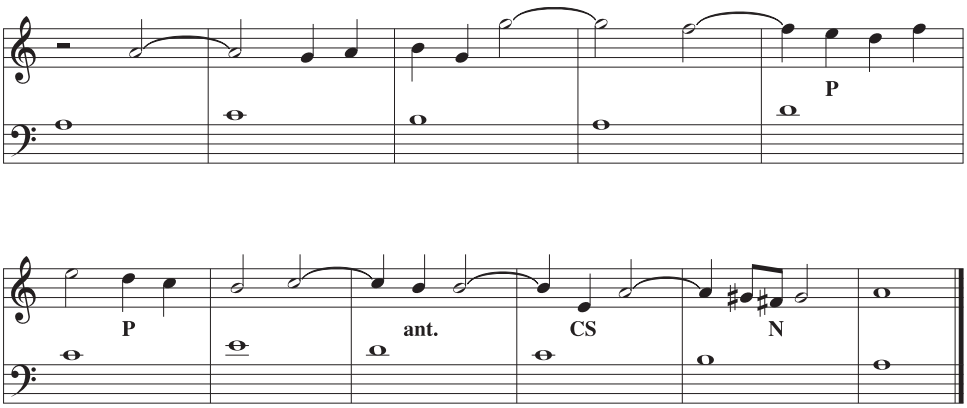
The patterns in Examples 5-23f and g illustrate eighth-note decorations. Because these patterns move quickly and by step, the first or second eighth may be dissonant. In the pattern in Example 5-23f, the upper neighbor passes to the tone of resolution on the third quarter; in Example 5-23g, a relatively accented eighth passes to the lower neighbor of the tone of resolution. The rhythmic technique shown in Example 5-23h is common and involves suspensions in series. In fifth-species counterpoint, suspensions must be decorated when they occur successively. Beginning in the second bar of the pattern, a fourth-species suspension (in tied half notes) leads to quarters and then eighths. This rhythmic strategy accelerates the line in its drive toward the cadence. Notice the leading tone at the cadence, which occurs as an untied half note. This represents a common exception to the rule that untied half notes should not be preceded by smaller note values; the melodic impulse of the leading tone into the tonic is strong enough to override any impression of arrested motion in the penultimate bar. Example 5-24 presents a complete fifth-species exercise.

5-24 *fifth-species counterpoint*



16. *Tones of Figuration in Harmonic Contexts.* We now begin to examine how the melodic and rhythmic idioms of species counterpoint function in harmonic contexts. Remember that free compositions involve resources not available in strict counterpoint, such as more varied rhythmic patterns, integration of motives, and wide-ranging instrumental textures (in addition to harmonic principles). Consequently, passing tones, neighbor notes, and suspensions occur in ways that do not always conform to the conventions of species counterpoint.

Example 5-25a shows the first, second, and final phrases from a chorale setting by Bach, a free texture with many tones of figuration. To determine their precise function, it is necessary first to reveal the underlying chordal framework. In Example 5-25b, we present the phrases without most eighth- and sixteenth-note decorations; Example 5-26 shows the phrases with Bach's figuration reinserted and the various types labeled (the following list indicates common abbreviations):

P: Passing tone

CP: Chromatic passing tone

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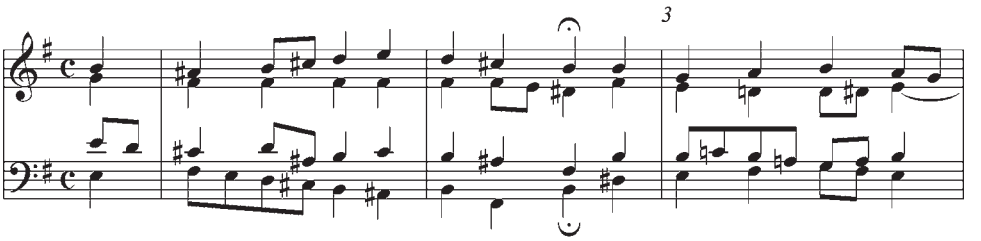
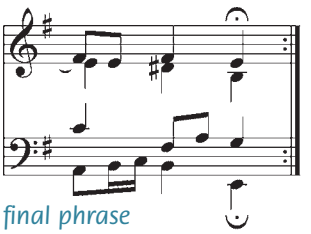
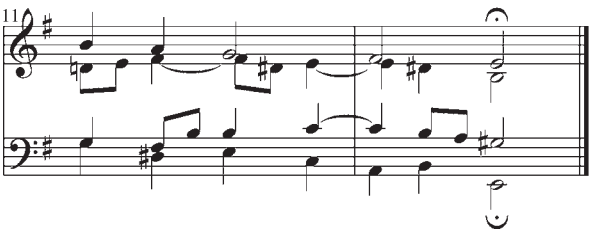
APT: Accented passing tone
N: Neighbor note
IN: Incomplete neighbor note
Susp: Suspension
CS: Consonant skip
DN: Double neighbor
Ant: Anticipation

5-25 *Bach, Chorale 184, "Christ lag in Todesbanden"*

(a) first and second phrases

final phrase

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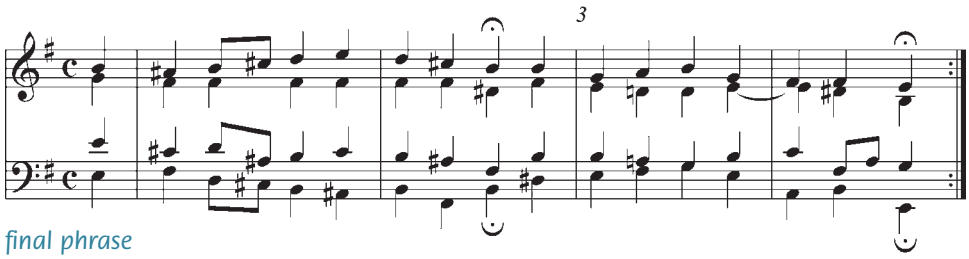
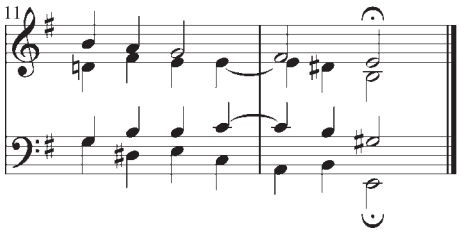
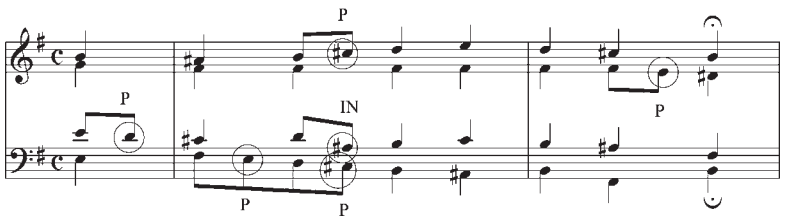
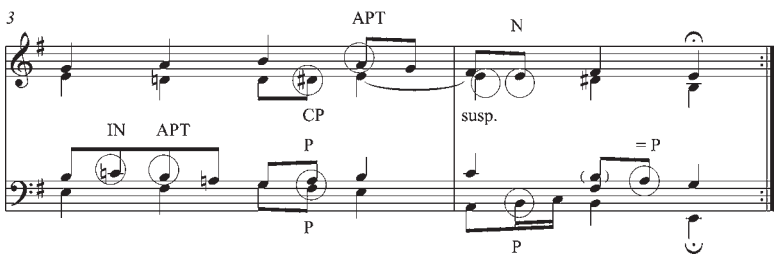
(b) bars 1–4 and 11–12 (without most tones of figuration)

first and second phrases

final phrase

5-26 *Bach chorale phrases with tones of figuration*

(a) first phrase with figuration



(b) second phrase with figuration



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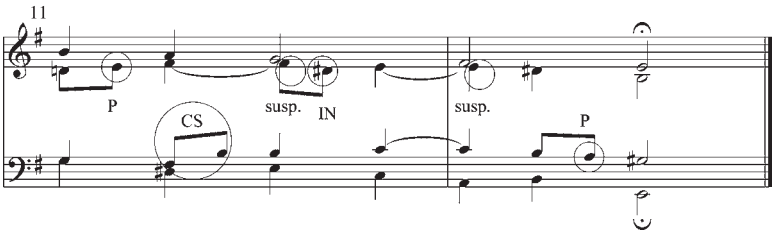
(c) final phrase with figuration

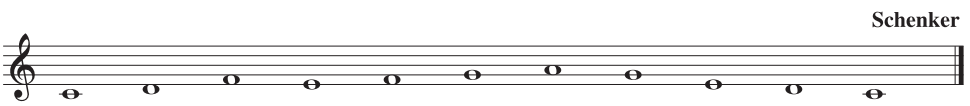
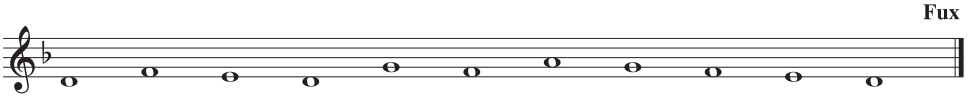


Example 5-26a illustrates how the underlying framework of bars 1–2 becomes more elaborate with unaccented passing tones embellishing the various voices. The phrase in Example 5-26b shows several types of figuration. The eighth-note figures on beats 1 and 2 in the tenor (bar 3) include an incomplete upper neighbor followed immediately by an accented passing tone. In the five species of strict counterpoint, passing tones do not occur on the downbeat of a bar, but in freer textures they may appear on a strong beat or strong part of a beat (in Example 5-26b, the A in the tenor, not the B, is the actual chord tone). The D♯ in the alto (beat 3) is a chromatic passing tone that links D and E, which is held over as a suspension in bar 4. Notice also the soprano A on beat 4, another instance of an accented passing tone.

The final phrase (Example 5-26c) shows Bach's motion into the cadence. The tenor leap F♯–B—a consonant skip from one chord tone to another—permits the completion of the inverted 7th chord and reestablishes the higher range for the tenor. Notice the syncopated alto line and the decorated suspension characteristic of fifth species. Finally, notice the suspension into the leading tone D♯, which then leaps to the B (the 5ths of the tonic triad) instead of moving upward by step to the tonic E, as would be the case in a strict setting. Leaping from the leading tone (in an inner voice) to another note of the tonic triad is a common idiom in freer textures, which enables Bach to conclude the chorale with a complete triad.

EXERCISES

Write counterpoints (above and below) to these cantus firmi in all five species; in some cases, you may need to place them an octave lower in the bass clef.

1.

2.

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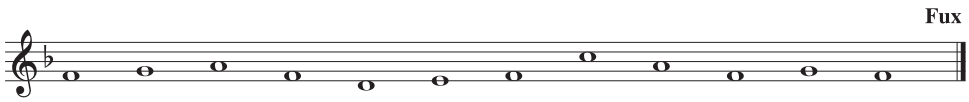
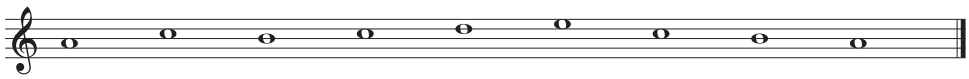
3.

4.

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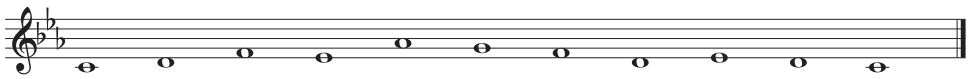

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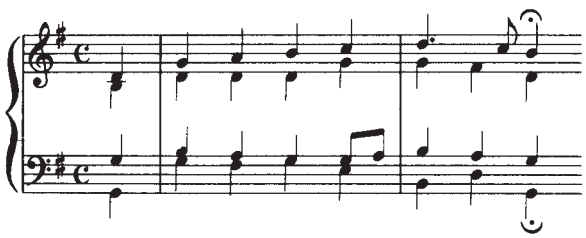
UNIT

6 Procedures of Four-Part Writing

6-1 *Bach, Chorale 293, phrase 1*

Chord Construction

1. ***Four-Part Vocal Texture.*** To continue our study of harmony and voice leading, we need to recognize how chords and lines interact—chord with chord, line with line, and line with chord. For you to concentrate on these essentials, particularly in written exercises, the simplest rhythm and texture is the most desirable. In this respect four-part vocal writing—the traditional medium for harmony exercises—has many advantages. By its very nature, vocal music is simpler than instrumental. Many complexities of rhythm, extremes of range, and changes in register that are easy on an instrument are difficult or even impossible for voice. At the same time, a setting in four parts, using the natural combination of high and low men's voices plus high and low women's or children's voices, provides a texture in which complete chords occur easily. Indeed, since the sixteenth century the four-part texture has come to represent the norm, especially in vocal music.

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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Four-part vocal writing is an ideal medium for the study of harmony not only because of its simplicity, but also because of its applicability to music of greater complexity. Much instrumental music—though often more elaborate on the surface—is based on a framework of four voices. Example 6-1, a phrase from J. S. Bach's Chorale 293, illustrates certain principles of chord construction. Bach's 371 chorales are universally acknowledged to be among the masterpieces of four-part choral writing. Although they are in many ways complicated little pieces, their complexities are not those of rhythm, texture, and register, all of which remain relatively simple. For this reason, the chorales have served as models for generations of music students, from Bach's day to yours.

As with nearly all the 371 chorales, Example 6-1 is set for four voices:

Soprano—Women's or children's high voices

Alto—Women's or children's low voices

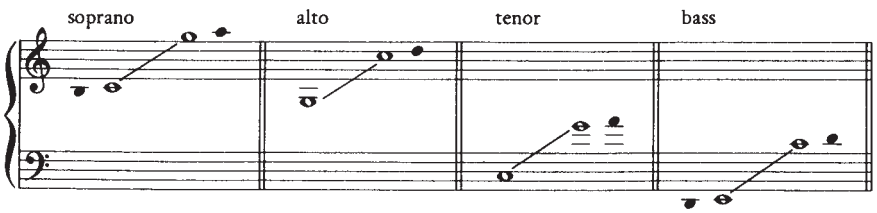
Tenor—Men's high voices

Bass—Men's low voices

When notated on two staves, as in the example, the two upper voices (soprano and alto) are written on the treble staff and the two lower ones (tenor and bass) on the bass staff.* The stems of the soprano and tenor voices always point up; those of the alto and bass always point down. The soprano and bass are referred to as *outer voices;* the alto and tenor, *inner voices.*

2. *Vocal Range.* In simple four-part vocal writing, each voice is set in a range that it can sing without strain. The usual ranges are shown by the whole notes of Example 6-2; the smaller noteheads represent allowable extensions. The greater part of each line will normally lie within the middle of the range rather than at the extremes.

6-2 *vocal ranges*



3. *Doubling.* In Example 6-1, all but one of the chords—the V7 just before the fermata—are triads. Because a triad consists of only three tones, one of its tones must appear twice—that is, it must be doubled. Example 6-3 indicates the doublings that occur in the first phrase of Chorale 293. Note that doublings can occur at the unison as well as at the octave or multiple octave.

*Bach himself notated his chorales in an open score of four staves, using soprano, alto, tenor, and bass clefs. If you are familiar with these clefs, you will find it valuable to write some of your exercises in open score.

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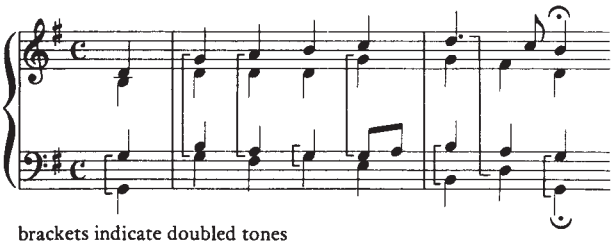
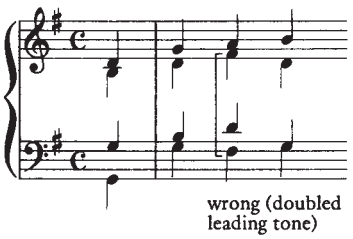
6-3 *Bach, Chorale 293*

"Rules" for doubling are formulated on the basis of an ideal vertical sonority. In practice, however, doublings are very much influenced by the way the voices move. Therefore, most of the rules of doubling can be applied flexibly; exceptions to the norm, however, should occur for a reason—usually to bring about smoother voice leading—and not arbitrarily. One rule must be regarded as virtually absolute: the leading tone, because of its active tendency toward Î, should never be doubled when it is part of V or vii^{o} or their inversions. Thus, to construct the third chord of Chorale 293 in the way shown in Example 6-4 would be wrong.

6-4



With root-position chords, the tendency is to double the more stable parts of the triad; thus, with major and minor triads, the root is most often doubled, as in the excerpt from Chorale 293. The root of a final tonic chord is virtually always doubled. Seventh chords, because they already contain four tones, contain no doublings if they are complete chords (Example 6-3, V^{7} just before fermata). Sometimes the root is doubled and the 5th omitted. The chordal 7th forms a dissonance, so it must never be doubled.

4. ***Complete and Incomplete Chords.*** The best vertical sonority is achieved when, as in our opening example, all the tones of a triad are present in the chord. The 5th of a major or minor root-position triad, however, may be omitted without confusing the identity of the chord. Because of the strength of the second overtone, the ear assumes a 5th above the bass unless there is some other interval present that contradicts the 5th. Most often when the 5th is omitted, the root is tripled and the chordal 3rd not doubled, as in Example 6-5, where the incomplete tonic chord makes possible a stepwise connection in all three upper voices. Because of the empty sound and the lack of major or minor quality, the

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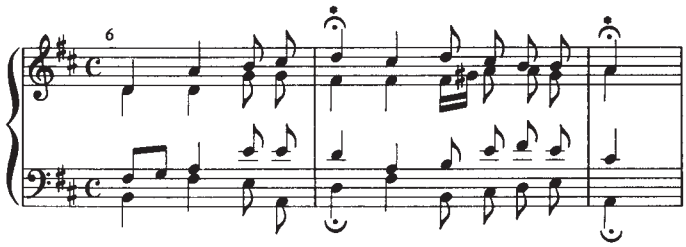
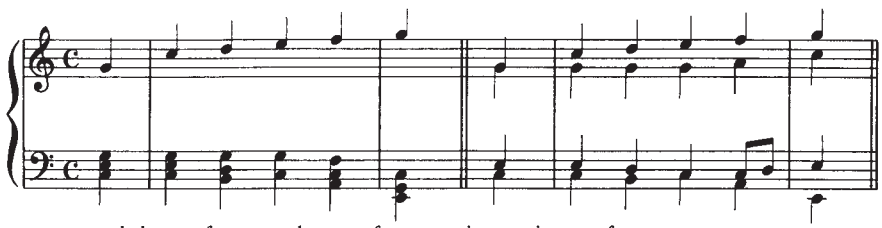
3rd of the triad is never omitted except for special effects. Triads in inversion are usually complete. Root-position seventh chords frequently omit the chordal 5th and double the root. Inversions of seventh chords are usually complete, with exceptions occurring even less often than with inversions of triads.

6-5 *Bach, Chorale 250*

*incomplete chords

5. ***Spacing.*** Except for special effects, the voices of a multivoiced texture should blend. Too great a distance between the soprano and alto or the alto and tenor, especially if continued beyond one or two chords, may create an impression of thinness. Normally, adjacent upper voices should not be more than an octave apart, as in both the Bach excerpts (Examples 6-1 and 6-5). However, it is perfectly acceptable for the tenor to be separated from the bass by as much as two octaves. The resulting high tenor register gives a particularly intense choral sound. On the other hand, to have the alto and tenor in a low register and separated from the soprano often produces muddiness. Play the "rewritten" versions of Chorale 293 (Example 6-6) and compare their effect with each other and with the original.

6-6 *poor spacing*

(a) *(b)*

soprano and alto too far apart; alto out of range inner voices too far apart

6. ***Open Position and Close Position.*** Strict observance of the rule of spacing still leaves room for considerable variety in the construction of a chord. Of the many "correct" possibilities, two general types are commonly distinguished: *open position* and *close position* (Example 6-7). Close position occurs when the three upper voices are as close together as possible—no additional chord tone can be inserted between adjacent voices. In open position, the upper voices

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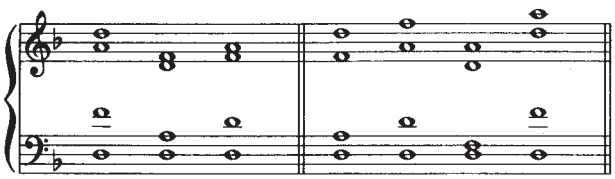
are separated so that a chord tone could be inserted between either alto and soprano, or tenor and alto, or both pairs of voices, as in Example 6-7b. Open position tends to give a full but clear and well-balanced sound. Both open and close position can be used within a single phrase, as in Example 6-1, where the first two chords are in close position and the rest are in open position. Changing from close to open position, or the reverse, is often necessary for good voice leading; the change can also give a welcome variety of sound.

6-7 *chorale style*

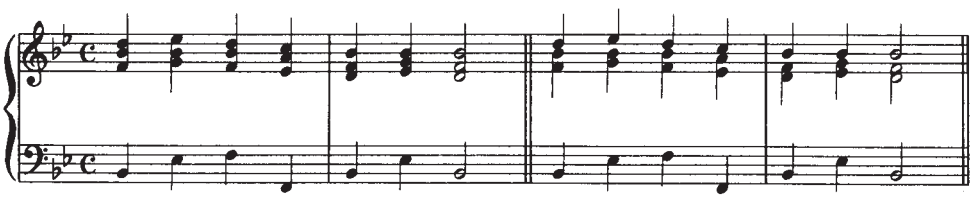
(a) close position *(b) open position*



7. *Keyboard Style.* As far back as the late seventeenth century, a figured bass was normally realized at the keyboard with the right hand playing the three upper parts and the left hand playing the bass only. This would mean that the distance between soprano and tenor could not exceed an octave, a comfortable stretch for most hands. Except for its notation, then, keyboard style is similar to close position. In this instrumental style, the limitations of vocal range need not be followed strictly. The tenor, in particular, tends to move higher than would be practical for voices.

Example 6-8 illustrates two conventional notations for keyboard style. In both notations the bass is alone on the lower staff with the stems pointing up or down depending on whether the note is above or below the third line. In 6-8a, the three right-hand parts are stemmed together. The direction of the stems is determined by whether the majority of tones are above or below the third line. In 6-8b, all the soprano tones are stemmed up, and a stem pointing down connects the inner voices.

6-8 *keyboard style*

(a) *(b)*

8. *Position of the Soprano.* Although not as crucial as the bass tone, which determines whether a chord is in root position or inversion (Unit 4, Section 6), the soprano tone also exerts a strong influence on the sound of a chord. The

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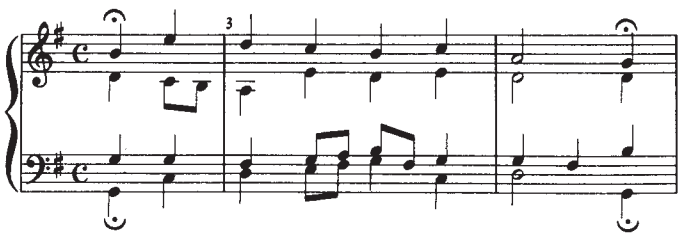
reason is that the soprano is usually the most prominent of the four voices. The effect that the soprano tone creates depends on several factors in combination: the interval from the bass, the stability or activity of the scale degree, and the context in which it appears. For instance, $\hat{1}$ over tonic harmony tends to give a stable—indeed, sometimes a static—impression; it forms an octave with the bass and is the least active degree of the scale. Thus, this position of the soprano will be most useful at points of articulation. A particularly beautiful sonority often results from placing the 3rd of a triad (especially a major triad) in the soprano. This disposition mirrors the overtone series, in which the 3rd (5th partial) appears above the octave (2nd and 4th partials) and the 5th (3rd partial). In a tradition that dates back to the sixteenth century (Zarlino cites it)*, composers have tended to favor this position of the soprano.

9. *Unusual Spacing.* Like most rules for doubling, the rule of spacing refers to a norm and is therefore not absolutely binding. Even in chorale style, Bach's settings clearly show that melodic considerations, motivic development, and, especially, the use of figuration may make a departure from the rule logical or even necessary. In a chorale, exceptional spacing is of brief duration, most often just a chord or two, as in the second phrase of Chorale 293 (Example 6-9) where the stepwise descent in the alto causes a gap between it and the soprano. In the even simpler texture of written exercises, such spacings are best avoided.

6-9 *Bach, Chorale 293, phrase 2*

At the same time it is important to realize that, particularly in solo instrumental compositions, extremes of spacing and register can be a most important expressive factor. In the beginning of the arietta from Beethoven's Piano Sonata, Op. 111 (Example 6-10), the left hand is written an octave below its normal register so that the inner parts are separated by as much as two octaves. The great distance between the upper and the lower parts suggests an immensity of space that could not be achieved otherwise. And the extreme register of the lower parts gives by contrast an ethereal quality to the upper parts, which are written in a normal register.

*Gioseffo Zarlino, *The Art of Counterpoint,* translated by Guy A. Marco and Claude V. Palisca (New Haven, Conn.: Yale University Press, 1968), pp. 196–197.

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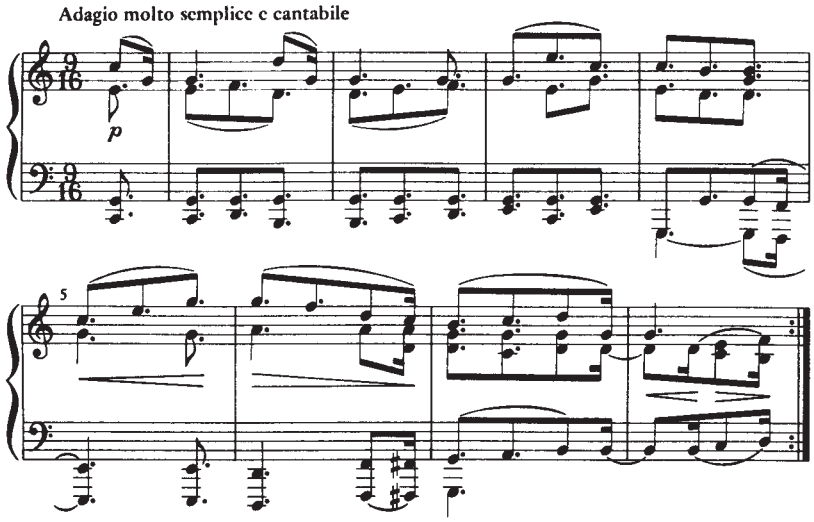
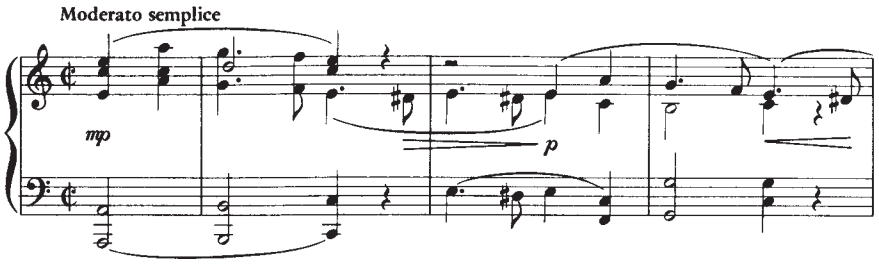
6-10 *Beethoven, Piano Sonata, Op. 111, II*

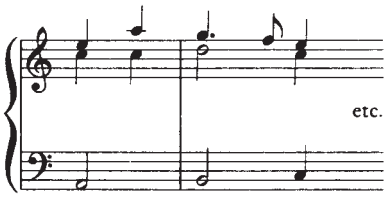


10. *Doubling in Free Textures; Chord Fillers.* In instrumental pieces, in which the number of parts will change from time to time, doublings at the octave may occur, usually to obtain variety of sound or for emphasis. Such doublings are *not* parallel octaves. Example 6-11, an excerpt from a piano piece of Brahms, illustrates octave doubling. The reduction shows that the piece begins with three real parts; at the repetition of the theme, the texture changes to four parts and contrasts with the first statement by the absence of doublings, the change of register, and the different harmonization.

6-11 *Brahms, Intermezzo, Op. 76/7*

(a)



(b) reduction

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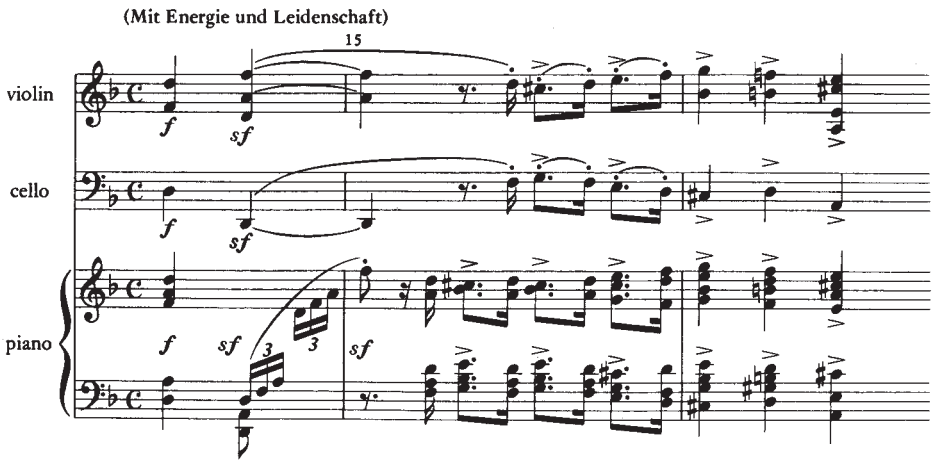
Doublings at the unison occur frequently in chamber and orchestral music. This is shown in the passage by Robert Schumann in Example 6-12. Where the number of voices must remain the same, as in a chorale or harmony exercise, such doublings should be strictly avoided.

6-12 *Schumann, Trio, Op. 63, I*

Sometimes, octave doublings of one or more voices may produce consecutive 5ths as a by-product; this will happen if two voices of the basic voice leading move in parallel 4ths (parallel 4ths between upper voices are not incorrect). A famous passage from Beethoven's "Waldstein" Sonata exemplifies this possibility (Example 6-13a). The reduction shown in Example 6-13b demonstrates the basic voice leading. Because the 5ths in this passage arise indirectly through doubling, they do not count as forbidden parallels.

Especially in keyboard music, a full texture is sometimes produced by adding doublings of chordal tones. These added tones, which we call *chord fillers,* sometimes produce distinct voices, but sometimes they do not. In the Mozart excerpt shown in Example 6-14a, the prominent low notes of the left-hand part form a voice that consistently doubles the bass at the octave (compare Example 6-11). The inner notes, however, merely reinforce the sonority without producing the impression of voices. The consecutive 5ths in the first two chords are the product of fillers, and they too are not forbidden parallels. Such 5ths are fairly frequent in keyboard writing. The basic voice leading is shown in the reduction of Example 6-14b.

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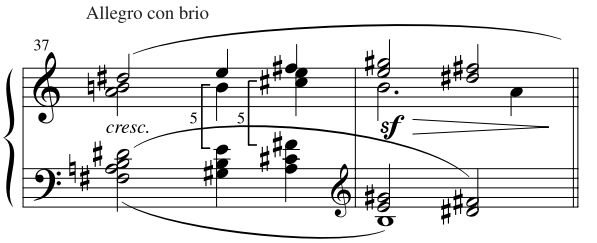
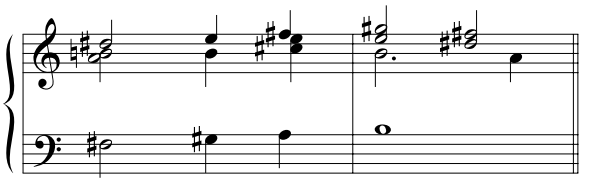
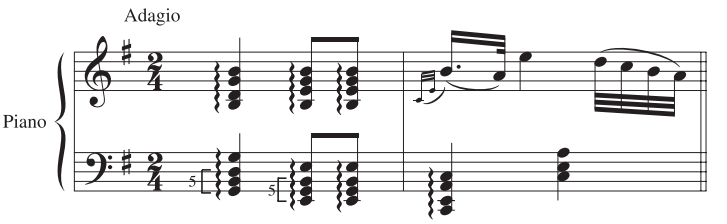
6-13

(a) Beethoven, Sonata, Op. 53, "Waldstein," I



(b) reduction

6-14

(a) Mozart, Violin Sonata, K. 379, I



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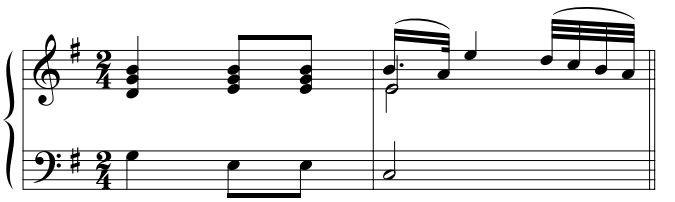
11. *Voice Crossing.* If two voices exchange position—if the alto moves below the tenor, for instance—the voices are said to cross (Example 6-15). Voice crossing occurs for a variety of reasons; it is least problematic when it involves only inner voices, and it is best when of very brief duration. A soprano or bass line can become obscured if crossed by an inner voice; you should therefore avoid such crossings.

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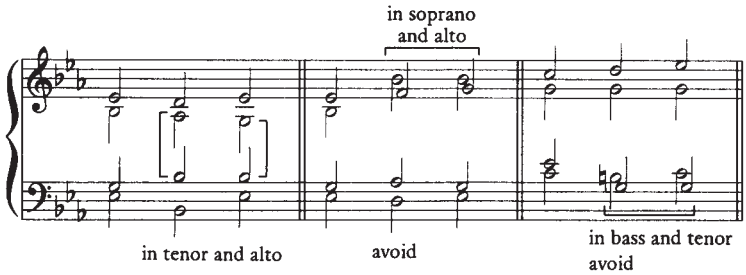
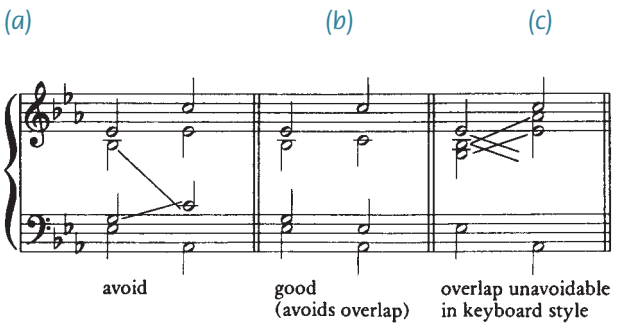
6-15 *voice crossing*



12. ***Overlapping.*** Example 6-16 illustrates overlapping. Here the two voices do not cross. They maintain their normal relative position, but the lower voice moves above the former position of the upper voice, or the upper voice moves below the former position of the lower. Such voice leadings may be confusing, particularly if a melodic stepwise connection can be made between the two voices. In the interest of clarity, overlaps, while not strictly forbidden, should be avoided wherever possible in four-part vocal style. They occur more appropriately in keyboard style; indeed, they are unavoidable if the soprano leaps any great distance.

6-16 *voice overlapping*



Counterpoint in Chorale Textures: Voice Leading

Voice leading, unlike chord construction, involves motion—the motion of each of the four voices considered individually and the sense of progression created by their combination. In Unit 5, we examined linear principles in strict counterpoint, which is not concerned with harmonic organization; in the remaining sections of this unit, we will begin to discover how these principles relate to four-voice harmonic textures. First, we will discuss the melodic motion of the single voice and then proceed to the consideration of several voices moving simultaneously.

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13. *Melodic Motion.* In addition to sustaining or repeating a tone, a line may move by step (*conjunct* motion) or by skip or leap (*disjunct* motion). The proportion of conjunct to disjunct motion varies according to the function of the line. In a simple four-part setting, such as the first two phrases of Chorale 293 (Examples 6-1 and 6-9), we can distinguish three types of function: that of the top voice (soprano), of the bass voice, and of the inner voices.

As the highest, and therefore most exposed, voice, *the soprano carries the main melodic line.* Most good soprano lines contain a preponderance of conjunct motion, but the inclusion of one or two leaps will help greatly in adding interest and variety to the line. On the other hand, too much disjunct motion may keep the line from holding together and may make it difficult to sing. The first two phrases of Chorale 293 (Example 6-1) illustrate a good balance of conjunct and disjunct motion within a simple vocal melody. Note that this soprano line has no repeated tones. In general, excessive repetition of a single tone can result in a static melodic line, but an occasional repetition can create a good effect, especially if the other voices move.

Because the lowest tone is the crucial member of the chord, *the bass voice has the special function of regulating the succession of chords.* Bass and soprano lines are interdependent. The bass must make explicit the harmonic meaning of the soprano. For example, in the opening phrase of Chorale 293, the soprano D could stand for the root of V, the 3rd of iii, or the 5th of I. The bass G shows that the soprano D means the 5th of I. For its part, the top voice must move in such a way as to allow logical harmonic direction in the bass. Bass lines are often quite disjunct, particularly at the ends of phrases, as Example 6-1 illustrates. Stepwise motion, however, such as at the beginning of the second phrase of the same chorale, can give a welcome melodic quality to the line.

Inner voices sometimes have a melodic interest of their own, particularly in places where the soprano does not move very much. *Their main function, however, is to complete the tones of the chord framed by the bass and soprano.* The position of the outer voices may limit the melodic possibilities of the inner voices, so that extensive repetition of one or two tones may be unavoidable. Such repetition is not injurious to the total effect if the bass and soprano are good. In general, the inner voices will have a less distinct profile than the soprano and bass will. Smooth voice-leading connections make likely a preponderance of conjunct motion, as in the tenor voice of Chorale 293, but the alto voice of the same two phrases shows that skips are also a possibility, if they occur for a valid reason.

14. *Treatment of Leaps.* Disjunct motion gives variety and tension to a melodic line, but can be disruptive if used carelessly. The effect a leap produces depends largely on its size and on whether it is consonant or dissonant. (In context, other factors might be important, for instance whether or not there is a chord change.)

Consonant leaps—upward or downward—occur fairly frequently even in the simplest vocal textures (Example 6-17). The smaller the leap, the less it tends to disrupt the continuity of the line. Thus, a leap of a major or minor 3rd interferes least with melodic continuity, especially where it is preceded or followed by stepwise motion (6-17a). A leap of a 6th or octave, on the other hand, generates considerable tension and should usually be followed by a change of direction, preferably by step (6-17b). Leaps larger than an octave are not permitted. Large

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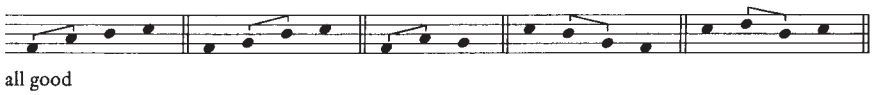
leaps must be used sparingly in a short harmony exercise; although their occasional use creates interest and variety, too many will create a disconnected, meaningless line. The melodic perfect 5th and perfect 4th (as a melodic interval the perfect 4th is always consonant) are more moderate in their effect than the octave or 6th but far more noticeable than the leap of a 3rd. It is best often to change direction after such a leap, but stepwise motion in the same direction, as in the opening of Chorale 293 (Example 6-1, soprano), is a good possibility (6-17c).

6-17 *melodic leaps*

(a)

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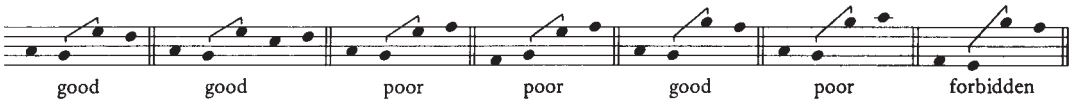
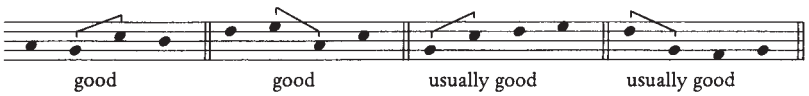
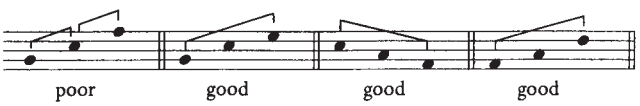

(c)

Two or more leaps in a row and in the same direction are usually avoided except when a 3rd combines with another 3rd or with a 4th to arpeggiate a chord (Example 6-18). The sparing use of arpeggiation, within a limited range, is a good source of variety in vocal music, but excessive use will destroy the vocal character.

6-18 *successive leaps*

Dissonant leaps represent a more advanced stage of complexity than consonant ones do; consequently dissonant leaps are excluded entirely from the simplest vocal styles. In a four-voice chordal setting, certain types of chords—particularly the dominant seventh—and certain harmonic progressions make dissonant leaps logical and attractive, and we will discuss their use in a later unit. The augmented 2nd, an interval traditionally excluded from four-part chorale settings and figured-bass realizations, should not be used.

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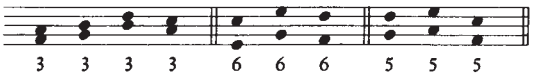
15. *Simultaneous Motion.* The motion of one voice relates to the motion of another in one of the four following ways (review Unit 5, Section 7):

Parallel motion: Both voices move in the same direction and maintain the same numerical interval (Example 6-19).

Similar motion: Both voices move in the same direction, but the interval between them changes (Example 6-20).

Oblique motion: One voice remains stationary while the other moves (Example 6-21).

Contrary motion: Both voices move in opposite directions (Example 6-22).

6-19 *parallel motion*

6-20 *similar motion*

6-21 *oblique motion*

6-22 *contrary motion*

Contrary motion creates the greatest contrast between the two voices and helps to give each an individual contour. Each voice is independent of the other in a way that adds to the listener's interest. Of the remaining types, oblique motion is the next most independent, similar motion less so, and parallel motion least of all. Because there are only two directions, up and down, all four voices cannot be going in contrary motion to each other; thus, the other types of motion are not only permissible but necessary and desirable. In particular, parallel motion in 3rds, 6ths, and 10ths can be among the most useful types of voice leading.

16. *Forbidden Parallel Motion.* In any multivoiced setting, the voices must join forces to create an overall sense of movement and direction. Within this unified web of sound, however, each voice must maintain its own individuality as much as possible. Certain types of parallel motion interfere either with the individuality of parts or with the forward momentum of the voice leading. Consequently, the following types of parallel motion are as forbidden in four-part writing as they are in strict counterpoint (Unit 5, Section 7):

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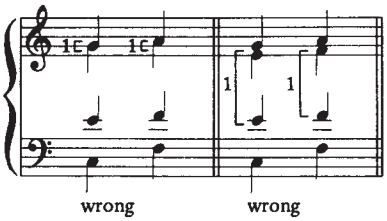
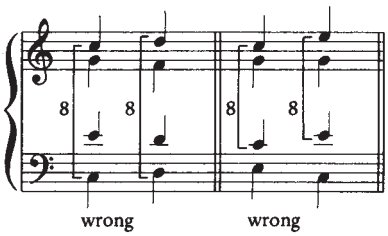
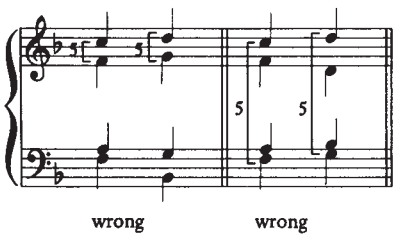
Parallel unisons: Here individuality does not exist because the one part merely duplicates the pitch, register, and motion of the other (Example 6-23).

Parallel octaves: Here one part duplicates the pitch and motion of the other in a different register; this provides some contrast but not enough to give the feeling of two individual voices (Example 6-24).

Parallel perfect 5ths: The perfect 5th is unique in that it is the only interval that can define a triadic root (see Unit 2, Section 7). This quality gives the interval a very strong stability and resistance to forward momentum. Composers from the fifteenth through the nineteenth centuries have excluded parallel perfect 5ths, as well as unisons and octaves, from their writings (Example 6-25).

6-23 *unisons*

6-24 *octaves*

6-25 *parallel 5ths*

Motion from a perfect 5th to a diminished 5th is acceptable. Motion from a diminished 5th to a perfect 5th is normally avoided since the dissonant interval does not resolve (Example 6-26).

The prohibition of parallel unisons, 5ths, and octaves refers only to motion within the *same* pair of voices. Example 6-27 shows two chords, one with an oc-

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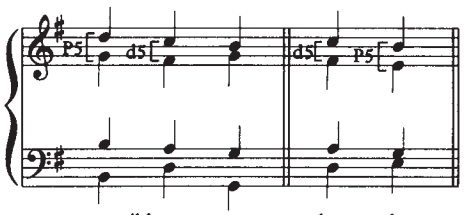
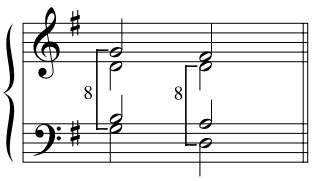
tave between bass and alto, the other with an octave between bass and soprano. Progressions like this do *not* contain parallel octaves.

The exact repetition of a unison, octave, or perfect 5th does not create motion and is therefore not a case of forbidden parallels (Example 6-28).

6-26 *perfect and diminished 5ths*

(a) *(b)*

possible less good

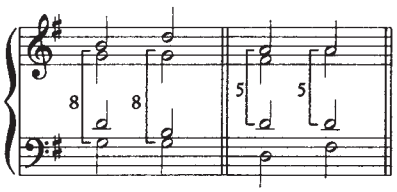
6-27



not parallel octaves

6-28

(a) *(b)*



not parallel octaves *not* parallel 5ths

17. 5ths and Octaves by Contrary Motion. Consecutive 5ths and octaves by contrary motion (Example 6-29) are best avoided in most cases because the succession of two perfect intervals in the same pair of voices tends to cause unwanted accents. (The same applies to motion between a unison and an octave.) In compositions—usually those with a free texture—octaves in the outer voices may occur at the end of a phrase for purposes of emphasis (6-29a). Fifths in the outer voices are less frequent (6-29b), but sometimes occur between an outer and an inner voice, as in 6-29c.

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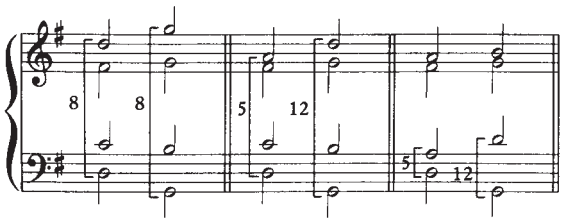
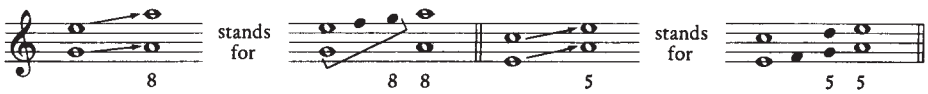
6-29 *octaves and 5ths by contrary motion*

(a) *(b)* *(c)*



18. *Hidden 5ths and Octaves.* 5ths or octaves approached by similar motion are called *hidden* (or *direct*) 5ths or octaves (review Unit 5, Section 7, on the approach to 5ths and octaves). The term "hidden" reflects the old theoretical idea that hidden 5ths or octaves conceal actual parallels that would occur if the intervals were filled in (Example 6-30).

6-30

(a) hidden octaves *(b) hidden 5ths*

Hidden 5ths and octaves are far less drastic in their effect than parallels are, and theorists disagree about their effect in four-part writing. In this respect, keep the following in mind:

1. The fewer the voices, the stronger and more problematic the effect. (Thus, hidden 5ths and octaves are forbidden entirely in two-part writing.)
2. The more complex the texture, the milder, and therefore less problematic, the effect.
3. The greater the concentration of dissonance, the weaker the effect.
4. Hidden octaves tend to be more obtrusive than hidden 5ths.
5. Hidden octaves and 5ths are most noticeable in outer voices, least so in inner voices.
6. They are most noticeable where there is no common tone between the two chords, least so where they occur within a single chord.
7. Skips in both voices emphasize hidden 5ths and octaves; stepwise motion in the upper voice minimizes their effect.
8. And most important: Bach, in his chorales, avoids hidden octaves in the outer voices except where the soprano moves by step (Example 6-31a). Follow this practice, use your ear in doubtful cases, and otherwise don't worry.

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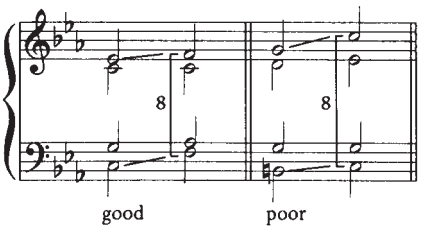
6-31 *hidden octaves*

(a) *(b)*



POINTS FOR REVIEW

1. The ranges of the four vocal parts are as follows: soprano—c^1 to g^2; alto—g to c^2; tenor—c to g^1; bass—E to c^1. (See Example 6-2 for possible extensions.)
2. The soprano and alto are notated on the upper staff with treble clef; the tenor and bass are notated on the lower staff with bass clef. The soprano and tenor stems always point up; the alto and bass stems always point down.
3. It is usually best to double the most stable tone(s) of a chord. Therefore, the leading tone in V or vii° and the 7th of seventh chords should not be doubled.
4. Complete chords create the best sonority. The 5th of major or minor root-position triads may be omitted, but not the 3rd. If the 5th is omitted, the root is often tripled. Similarly, the 5th may be omitted from root-position seventh chords and the root doubled.
5. Except for bass and tenor, the distance between adjacent voices should not exceed an octave. In close position, the upper three voices are as close together as possible. In open position, the upper voices are separated so that a chord tone could be inserted between alto and soprano or alto and tenor. In keyboard style, the distance between soprano and tenor is an octave or less and vocal ranges—particularly in the tenor—need not be strictly observed. (See Example 6-8 for notation.)
6. The *soprano voice* will normally have a preponderance of stepwise (conjunct) motion, with leaps (disjunct motion) introduced for variety. The *bass voice* will often have a large number of leaps, especially near phrase endings, but will also contain stretches of conjunct motion to give it a melodic quality. *Inner voices* will contain fewer leaps and will mostly consist of stepwise motion and repeated tones.
7. The melodic augmented 2nd is forbidden (augmented intervals in general are best avoided), as are leaps larger than an octave. After any large leap, it is best to change direction.
8. There are four types of simultaneous motion: parallel, similar, oblique, and contrary.
9. Parallel unisons, parallel octaves, and parallel perfect 5ths are forbidden. P5 followed by d5 is usually OK; d5 followed by P5 is usually not OK.
10. Hidden 5ths or octaves occur where the 5th or octave is approached by similar motion. Hidden octaves in the outer voices should be avoided unless the soprano moves by step.
11. Voice crossing (Example 6-15) is best avoided where it involves an outer voice. Overlap (Example 6-16) is best avoided except in keyboard style.

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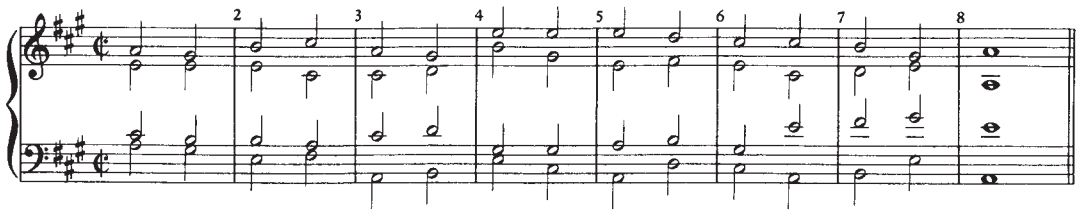
EXERCISES

1. Explain: conjunct and disjunct motion; parallel, similar, oblique, and contrary motion; 5ths and octaves by contrary motion; hidden 5ths and octaves; voice crossing; overlapping; chord fillers.
2. Define and know the rules for: vocal range; complete and incomplete chords; spacing; open position, close position; keyboard style.
3. Write at least five different versions of each of the following chords. Vary the spacing, the doubling, and the position of the soprano. Name the major key to which (e), (f), and (g) belong; name the minor key to which (h) belongs.

   a. F major $\frac{5}{3}$
   b. C♯ minor $\frac{5}{3}$
   c. F♯ diminished $\frac{6}{3}$
   d. A♭ major $\frac{6}{4}$
   e. D dominant 7th
   f. E dominant $\frac{6}{5}$
   g. B♭ dominant $\frac{4}{2}$
   h. A♯ diminished 7th
   i. D♯ half-diminished $\frac{6}{5}$
   j. D♭ major 7th

4. Identifying mistakes. There are many mistakes of voice leading and chord construction in the following example. Indicate each one you can find.

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PART II

I-V-I and Its Elaborations

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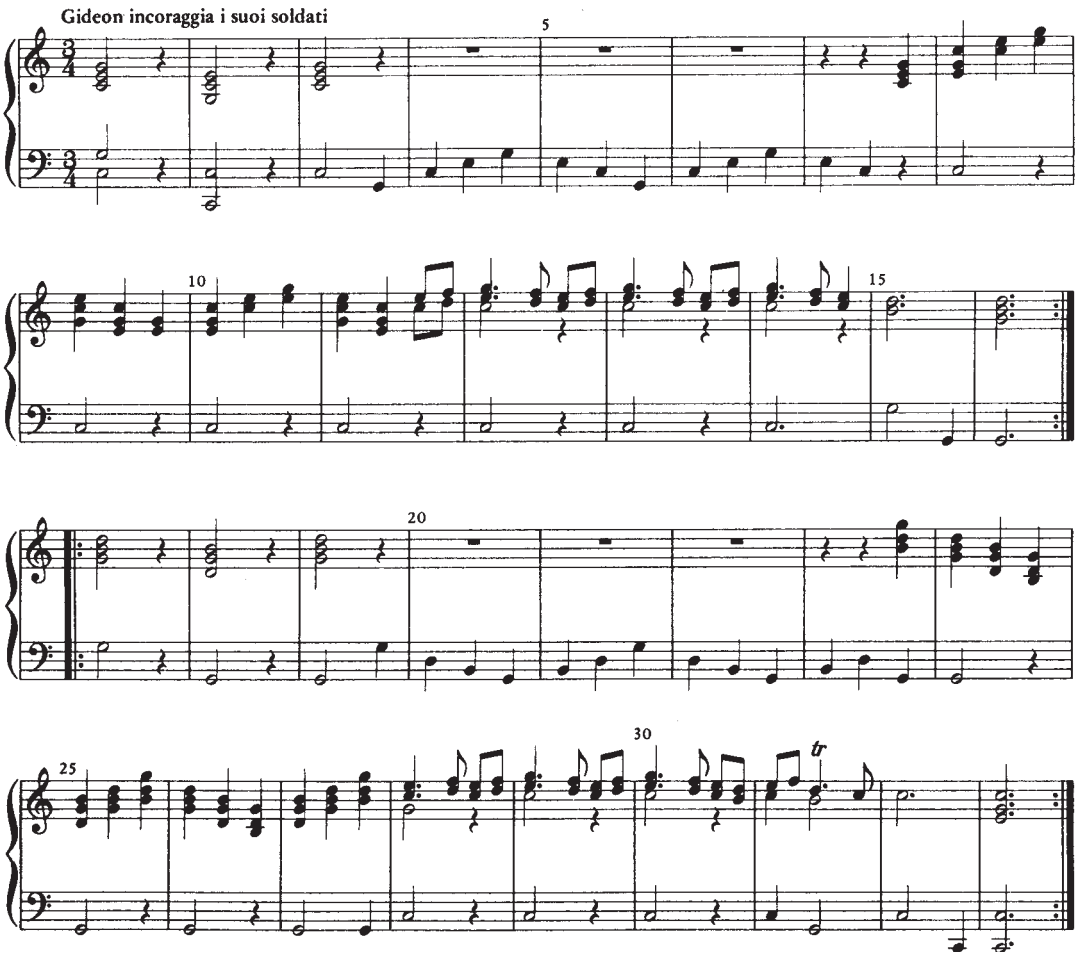
UNIT

7

I, V, and V^7

7-1 *Kuhnau, "Biblical Sonata" No. 5*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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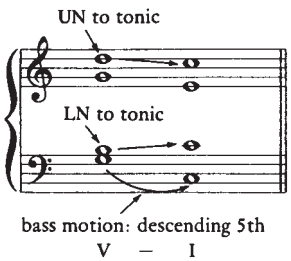
Tonic and Dominant

1. I-V-I. Example 7-1 is a rather special piece. It is from the fifth of a set of six biblical sonatas for keyboard composed by Bach's predecessor in Leipzig, Johann Kuhnau (1660–1722). This sonata is titled "The Savior of Israel: Gideon," and the Italian subtitle at the beginning of the movement means "Gideon encourages his soldiers." Kuhnau may have wanted to indicate that Gideon was a man of few words, for in all its 33 measures the piece uses only two chords, a curious and unusual procedure. The two chords are I and V, and the choice is not an accident; it would be scarcely possible to compose a coherent piece of tonal music with any other combination of two chords. Only the V chord can contrast with the tonic and, at the same time, lead to and affirm it so convincingly.

V leads to I by both *harmonic* and *contrapuntal* motion. The harmonic motion is that of the descending 5th (or its inversion, the ascending 4th), discussed in Unit 4. At the same time the 5th and 3rd of V, $\hat{2}$ and $\hat{7}$, stand in a stepwise *contrapuntal* relation to $\hat{1}$. The progression V-I, therefore, combines the strongest possible harmonic motion (in the bass) with the strongest possible melodic motion (Example 7-2). The progression from an opening tonic through a dominant to a closing tonic constitutes the harmonic nucleus of many phrases, sections, and, as with the Kuhnau, complete pieces. It is *the* basic progression of Western music.

7-2 *V-I: harmonic and melodic motion*



2. *Expanding I and V.* Obviously, if I-V-I is to become the basis for an entire piece, the progression must somehow be expanded. The basic way to accomplish this expansion is by using the harmonies as the source for more or less extended melodic lines. Look at the first 14 bars of the Kuhnau. Three bars of block chords suggest a kind of call-to-attention, with changes of tones within the chord creating a bit of melodic interest. With the upbeat to bar 4, a more distinct melody begins in the left hand. Despite the low register, the tones of this melody do not actually function as the bass of this chord, which is simply the low C, sustained by implication from the opening bars. Kuhnau probably wanted to depict Gideon's exhortation to his troops in a booming baritone, hence the register. The melody itself is nothing more than a simple arpeggiation of the tonic chord, its resemblance to a bugle call giving it a distinctly martial character. With the upbeat to bar 8, the soldiers begin to respond with the same tune, but in a much higher register (perhaps their voices hadn't yet changed). According to the Bible, there are three hundred of them, so the response supports the melodic line with

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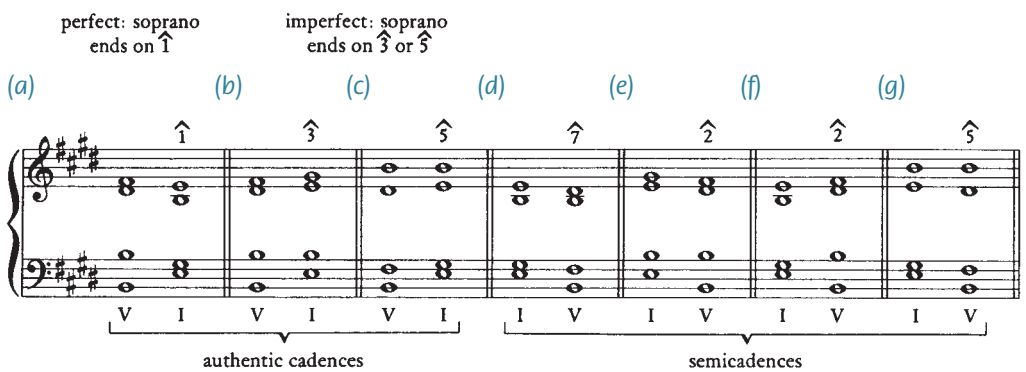
additional tones, all of them belonging to the I chord. Starting with the last eighth note in bar 11, passing tones in the upper voices fill in the 3rds between chord tones. After the double bar, the dominant is expanded in an almost identical way, but with the opening melody inverted. The tonic returns in bar 28 and continues to the end except for the V of bar 31, which we shall discuss in the next section. The Kuhnau piece demonstrates the simplest way to expand a chord: *arpeggiating above a sustained bass.* This technique forms the basis for many of the more advanced procedures we shall explore in later units.

3. Cadences. Music has its punctuations and groupings, roughly comparable to the sentences and paragraphs of language. In bar 15 of the Kuhnau, the impact of the change of harmony, the slower rhythm, and the stepwise descent of the melodic line from G to D make us hear the arrival of V as a goal and mark the end of an important group. But there is still more to follow: we have reached the end of a sentence, so to speak, not a paragraph. Having reached V and $\hat{2}$, we feel the need to continue to I and $\hat{1}$. This doesn't happen right away. After the double bar, dominant harmony continues, and the rhythmic activity increases again. The tonic returns in bar 28, but without a feeling of repose; the melody is on $\hat{3}$, and the rhythm becomes more active, as it did in bars 12–13. V and $\hat{2}$ are once more reached in bar 31, beat 2, but this time the motion continues to the final goal: tonic chord and $\hat{1}$.

We call a succession of chords that marks the end of a musical phrase or section, as in bars 14–15 and 31–32 of the Kuhnau, a *cadence* (Latin *cadere,* to fall). Because it creates a halt in the musical motion, a cadence is a rhythmic as well as a tonal event. Many cadences, as in the Kuhnau, show a broadening of time values; in most the final chord falls on a strong beat. The Kuhnau piece illustrates the two most important types of cadence: the *authentic cadence* (V-I) in bars 31–32, and the *semicadence,* or *half cadence* (ends on V), in bars 14–15. Example 7-3 illustrates typical cadential patterns in four voices.

7-3 *cadential patterns*



Authentic Cadences (7-3a–c): Example 7-3a is the most final sounding and is often called a *perfect* authentic cadence. This cadence is used mostly at the end of a piece, but it is possible earlier. Examples 7-3b and c are *imperfect* authentic cadences; that is, they are less final sounding than Example 7-3a. Of the two, Example 7-3b occurs much more frequently than Example 7-3c does.

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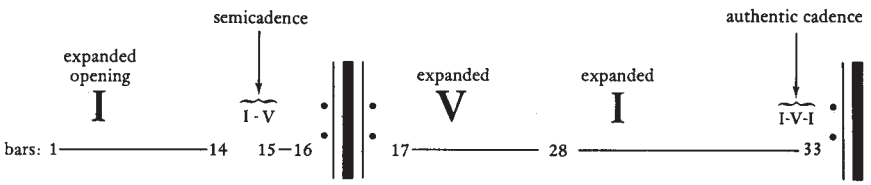
Semicadences (7-3d–g): Example 7-3g occurs somewhat less frequently than Examples 7-3d, e, and f because of the lack of melodic activity in the soprano.

4. **Different Functions of I and V.** Chords derive their meaning—as opposed to their label—from the way they function. In the Kuhnau, the tonic functions first as an opening tonic, establishing the tonality and serving as a point of departure. At the end, it is a goal of motion, thus a *closing tonic*. The V has three different functions in this piece. In bars 15–16, V is the goal chord of the cadential progression I-V (semicadence) and articulates the close of the first section. In bars 17–27, V is expanded so that it becomes a significant portion of the piece; V thus helps to shape the form. And in bar 31, V functions as part of an authentic cadence leading to the final tonic and thus identifying it as the goal. Finally, the Kuhnau illustrates an important fact about harmonic progression—namely, that it operates over both large and small spans. As Example 7-4 illustrates, the expanded I and V chords create a large-scale harmonic progression, whereas the quicker successions of chords at the cadences mark important points of arrival.

7-4 *functions of I and V*



I-V-I in Four Parts

5. **Doublings.** (For doublings of I and V, see Unit 6, Section 3.) Most often the root is doubled both in I and in V, but the 5th and 3rd of I and the 5th of V are also possibilities. *Never* double the leading tone (3rd of V)!

6. **I-V-I: Melodic Patterns and Voice Leading.** (Review Unit 1, Sections 9–10.) The progression I-V-I makes possible many important melodic and voice-leading techniques. In Unit 1 you learned that $\hat{2}$ and $\hat{7}$ can function as neighbors to $\hat{3}$ or $\hat{1}$ and that $\hat{2}$ can function as a passing tone between $\hat{1}$ and $\hat{3}$. All these melodic figures—involving passing and neighboring tones whose functions we examined in strict counterpoint (Unit 5)—frequently occur harmonized by I-V-I. Writing the progression with these different possibilities in the soprano voice can provide valuable practice. Don't feel obliged to memorize every detail of voice leading shown in the following examples, but do refer to them from time to time, especially when working out the exercises. What you *must* remember is that I supports $\hat{1}$, $\hat{3}$, and $\hat{5}$; V supports $\hat{5}$, $\hat{7}$, and $\hat{2}$.

Lower-neighbor figures (Example 7-5): These figures occur frequently and present no voice-leading problems. The common tone $\hat{5}$ is kept in the same voice; other voices move to the nearest position.

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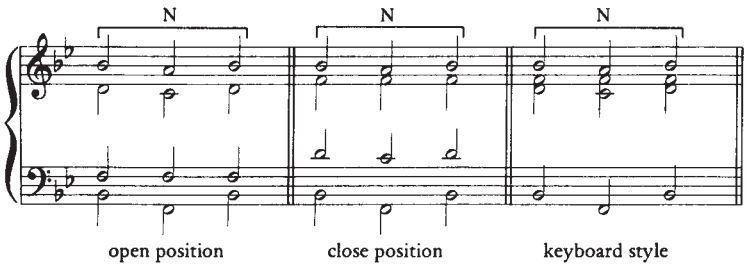
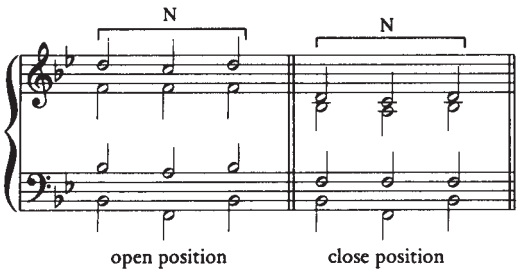
7-5 lower-neighbor figures

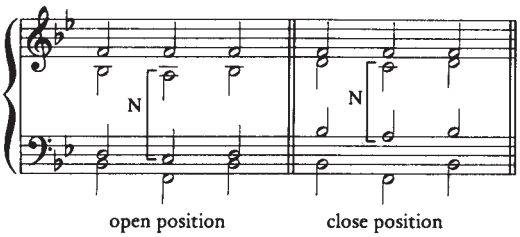
(a) $\hat{1}$ in soprano



(b) $\hat{3}$ in soprano



(c) $\hat{5}$ in soprano



Descending passing motion (Example 7-6): The very important melodic progression $\hat{3}$-$\hat{2}$-$\hat{1}$ often supports the cadential progression I-V-I, as at the end of Example 7-1. $\hat{3}$ and $\hat{1}$ are stable tones belonging to the tonic triad; $\hat{2}$ is a passing tone, dissonant against the tonic triad. The V provides consonant support for this passing tone. With this soprano line, the common tone does not always remain in the same voice. In Example 7-6a, the 5th of the final tonic chord is omitted so that the leading tone (in the tenor) can move to the tonic. In Example 7-6b, the leading tone descends to the 5th of I to make possible a complete chord. In Example 7-6c, the common tone $\hat{5}$ is kept in the alto throughout. The tenor leaps from the leading tone to the 3rd of the tonic chord.

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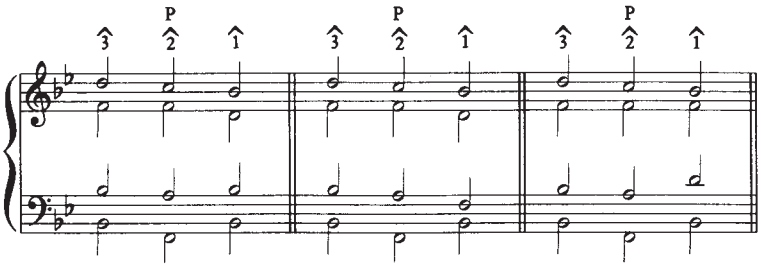
7-6 *descending passing tones*

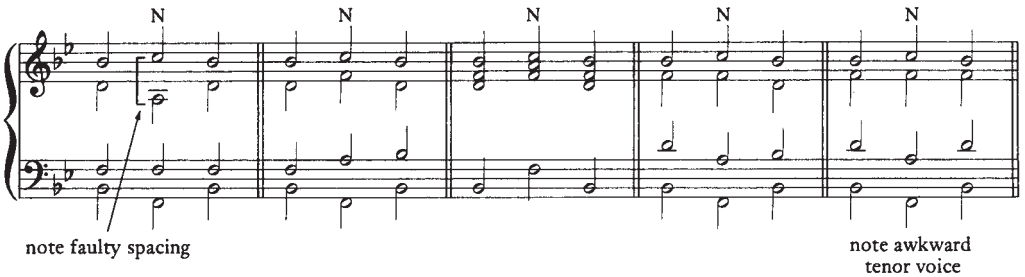
(a) *(b)* *(c)*



Upper-neighbor figures (Example 7-7): Compare the voice leading here with that of Example 7-5.

7-7 *upper-neighbor figures*

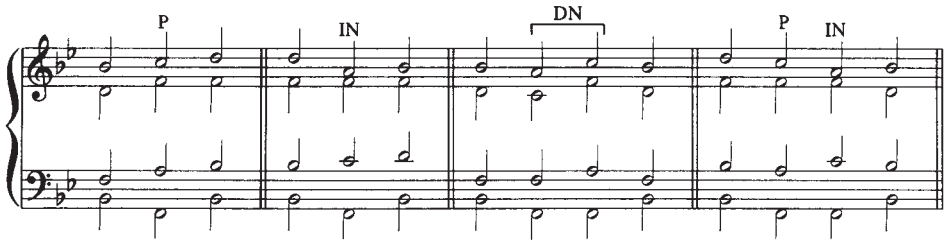
(a) *(b)* *(c)* *(d)* *(e)*



Other figures (Example 7-8).

7-8 *other figures*

(a) *(b)* *(c)* *(d)*



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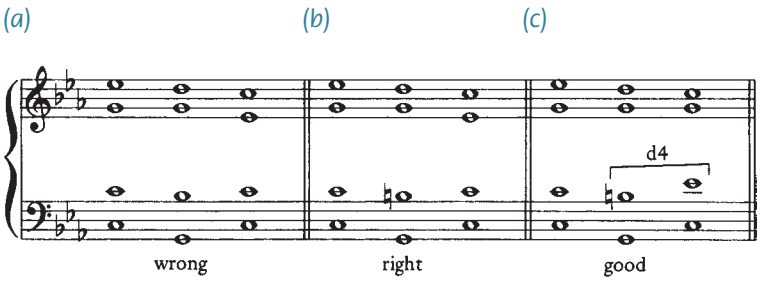
7. *Some Normal Voice-Leading Procedures.* When you lead voices—particularly the alto and tenor—in harmonic progressions, it is often good to follow these procedures (in this suggested order):

1. Keep common tones.
2. Move by step.
3. Then, use small leaps.

These guidelines do not work in every case and may be set aside when there is a valid musical reason for doing so. For instance, it is often necessary to use a small leap if keeping a common tone in an inner voice produces a chord without a 3rd or if moving by step results in a doubled leading tone. By their very nature, soprano and bass voices will contain leaps (like good contrapuntal lines), which may necessitate changes in spacing (from open to close, or vice versa) in one or more voices. Remember that these are suggested merely as general procedures that interact with other aspects of voice leading and chord construction. But when you find yourself writing 3rds, 4ths, and 5ths in inner voices, reevaluating your work in light of these procedures will often reveal different and more musically satisfying realizations.

8. *i-V-i in Minor.* (Review Unit 4, Section 5.) In any progression where V goes to I, or creates the expectation of such a motion, $\hat{7}$ must be raised to form a leading tone. Thus V becomes a major triad as in Examples 7-9b and c; the progression shown in 7-9a is *wrong*. It will be good practice for you to rewrite Examples 7-5–7-8 in various minor keys. Only one detail of voice leading requires comment: The progression shown in Example 7-9c will contain a diminished 4th in the tenor voice. Although melodic dissonances are generally to be avoided in the inner voices, this progression, which occurs frequently in the Bach chorales, is good.

7-9 *i-V-i in minor*



9. *Expanding I and V in Four Parts.* In the Kuhnau, we saw how I and V were expanded by changing the position of all the upper voices, so that when the soprano moved, the alto and tenor followed in parallel or similar motion. The inner voices need not always follow the soprano, however. Sometimes considerations of vocal range make it better for one or both of them not to. In moving from one chord position to another it is not necessary to keep the chord complete: the 5th may be omitted, but take care not to omit the 3rd, and not to double the leading tone (Example 7-10).

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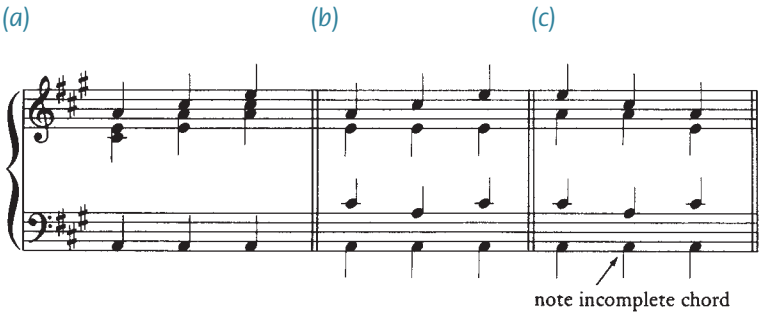
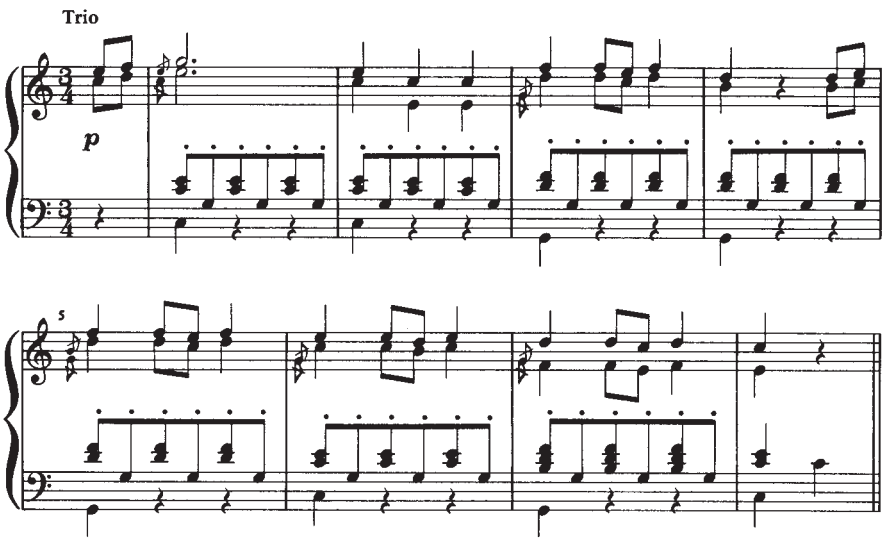
7-10 *expanding a triad*



The Dominant Seventh

10. *V⁷ as Dissonant Chord.* Example 7-11, the beginning of the trio from a minuet by Haydn, provides an excellent introduction to the use of V^7. In bars 3–5, and in bar 7, $\hat{5}$ is in the bass, but the chord contains a 7th above the bass as well as a 3rd and a 5th. Because of the 7th, V^7, unlike V^5_3, is a *dissonant* chord; the 7th, which represents a descending passing tone, must therefore resolve (review Unit 4, Section 12). Thus, in the Haydn, the $\hat{4}$ (7th of V^7) of bars 3–5 resolves to $\hat{3}$ in bar 6; likewise the inner-voice $\hat{4}$ of bar 7 moves to $\hat{3}$ in bar 8. V^7 has the same harmonic meaning as V, but the dissonance (a contrapuntal factor) intensifies its drive to the tonic. V^7 is therefore often part of an authentic cadence, as in bars 7–8 of the Haydn.

7-11 *Haydn, Symphony No. 97, III (simplified)*

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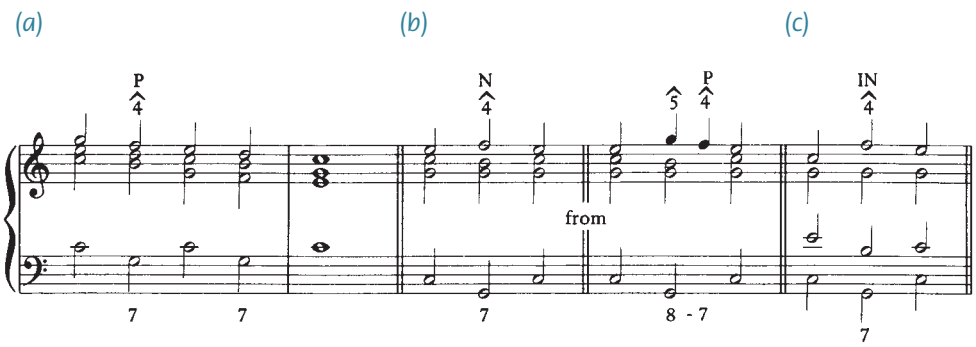
11. *V7 and the Soprano Voice.* (Review Unit 1, Sections 9–11, especially in reference to use of $\hat{4}$.) One very important function of V^7 is to support $\hat{4}$ in the soprano. In bars 3–5 of the Haydn, $\hat{4}$ is part of a somewhat elaborated stepwise descending line—in other words $\hat{4}$ functions as a passing tone; Example 7-12a shows this in reduced form. $\hat{4}$ supported by V^7 can also appear as a neighbor to $\hat{3}$, either complete (7-12b) or incomplete (7-12c). Scale degree $\hat{4}$ supported by V^7 can also appear as a neighbor to $\hat{3}$ (Example 7-12b). As a general rule, the 7th works best if it enters smoothly. Therefore approaching it by step—as a passing tone or neighbor—integrates the dissonance into the line and often creates a better effect than emphasizing it by leaping into it. The technique of introducing dissonances smoothly is known as *preparing the dissonance* (in later units we shall learn other ways of preparing dissonances). Leaping into the 7th as an incomplete neighbor (7-12c) is also possible, though less smooth. Such a motion represents a liberty not available to us in strict counterpoint; here it is the addition of a harmonic framework that allows for greater freedom in voice leading.

7-12 *$\hat{4}$ in the soprano*



V^7, like V^5_3, can also support $\hat{7}$, $\hat{2}$, and $\hat{5}$ in the soprano. If $\hat{5}$ is in the soprano, the V^7 will be incomplete, as in Example 7-13c. Sometimes, however, V^5_3 is a better choice for supporting these tones. If the melodic line comes to rest on $\hat{7}$, $\hat{2}$, or $\hat{5}$, V will generally produce a better effect than V^7, which conveys an inappropriate feeling of activity. *For this reason, V^7 is not often used in a semicadence.*

12. *V7 in Four Voices: Doubling.* In four parts, V^7 may appear as a complete chord $^7_5{}_3$, in which case there is no doubling, or as an incomplete chord with root doubled and fifth omitted $^8_7{}_3$. Example 7-14 illustrates. In this example, the figures represent *all* the intervals above the bass. In actual figured basses of the Baroque period, incomplete chords are not necessarily indicated by special symbols.

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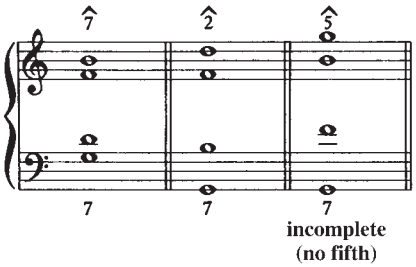
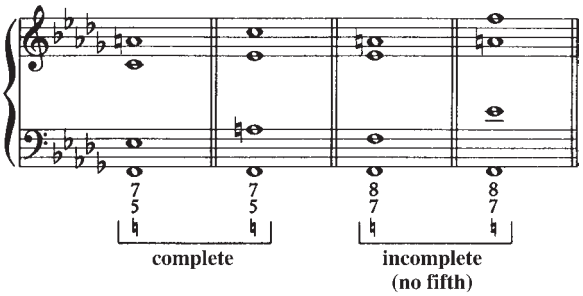
7-13 *other possibilities*

(a) *(b)* *(c)*



7-14 *doubling*

(a) *(b)* *(c)* *(d)*



13. V^7-I: Voice-Leading Techniques. V^7 contains two "tendency" tones: $\hat{4}$ and $\hat{7}$, the scale degrees that form a tritone in major and in the inflected forms of minor. (Like V^5_3, V^7 in minor *must always contain a leading tone.*) As we have seen, $\hat{4}$, which forms a dissonance with the bass, *must* move down by step to $\hat{3}$. $\hat{7}$ tends strongly to move to $\hat{8}$, and if it appears in the soprano voice (an exposed position), it must do so. Where both these tones follow their natural tendencies, the tritone dissonance between upper parts will resolve normally (Unit 2, Section 13). The resolution, however, occurs at a cost: One of the chords in the progression V^7-I will be incomplete (Example 7-15). An incomplete V^7 is a particularly good first consideration for written work because it permits such smooth motion (among the upper voices) into the following I. Also, since $\hat{7}$ is consonant with the bass, it may move to $\hat{5}$ if it is an inner voice; this procedure makes it possible for both V^7 and I to be complete chords (7-15c). The last is the voice leading preferred by Bach in his chorale settings, especially at cadences, but all three possibilities are good. Note that when $\hat{7}$ is in the soprano it is impossible for both V^7 and I to be complete without writing 5ths by contrary motion. This is a procedure you should avoid. (Compare Examples 7-15b and d.)

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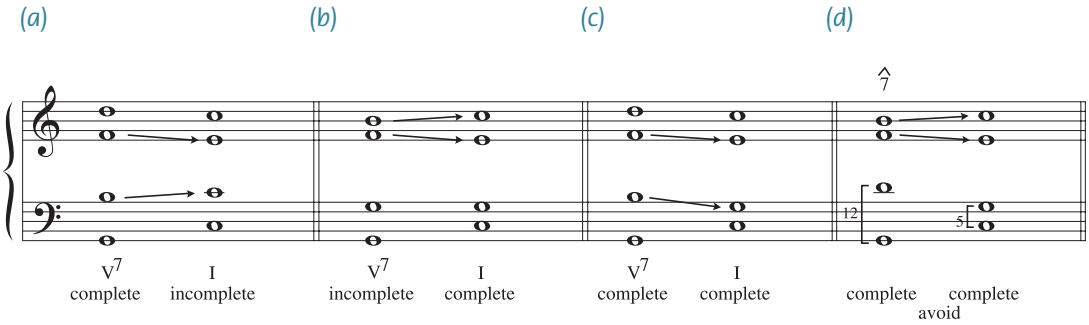
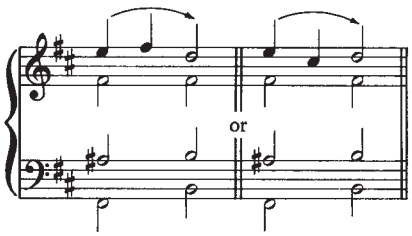
7-15 *resolving V7*



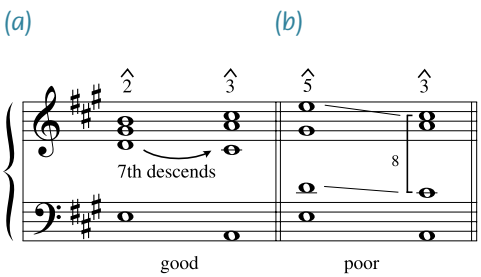
Sometimes a melodic interpolation decorates the resolution; this occurs most frequently in the soprano voice (Example 7-16). Such interpolations are often related to the decorated suspensions of fifth-species counterpoint (Example 5-23).

7-16 *melodic interpolation*



14. V7-I: Doubling $\hat{3}$. Normal resolution of the 7th combined with the melodic motion $\hat{2}$-$\hat{3}$ will result in a tonic with a *doubled 3rd,* as shown in Example 7-17a. Despite the irregular doubling, the contrary motion into the doubled 3rd has a good effect, and the motion up to $\hat{3}$ often helps to produce a beautiful soprano line. On the other hand, resolution of the 7th combined with the melodic motion $\hat{5}$-$\hat{3}$, as in 7-17b is not good; the similar motion into the octave on $\hat{3}$ creates an unpleasant effect, at least in the simple and transparent textures of beginning harmony exercises (see the discussion of hidden 5ths and octaves in Unit 6, Section 18).

7-17 *doubled 3rd*



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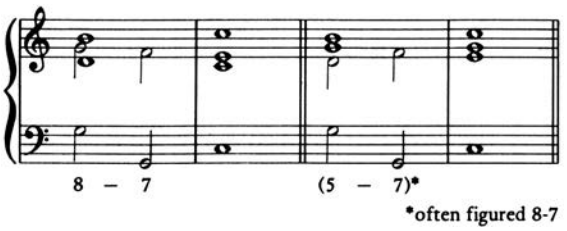
15. $V^{8\text{-}7}$. Example 7-18 shows that dominant harmony is often extended and intensified by moving from $\frac{5}{3}$ to 7, through what is known as the 8-7 technique (the 7th is a descending passing tone from second-species counterpoint). This happens frequently in an authentic cadence, where the introduction of the 7th can be emphasized by a *downward* leap of an octave in the bass. Note that the 7th sometimes comes from $\hat{2}$ rather than $\hat{8}$ (the 5-7 technique).

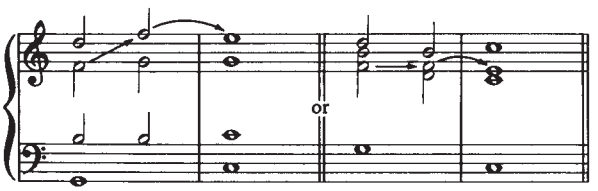
7-18 $V^{8\text{-}7}$

(a) (b)



16. *Expanding V^7.* Like I and V^5_3, V^7 may be expanded by changing the positions of the upper voices. This may result in a *transfer* of the dissonant 7th from one voice to another; the 7th will resolve in the last voice in which it occurs, as in Example 7-19.

7-19 *transferred 7th*



Extending V^7 creates the possibility of dissonant melodic leaps of the 7th, diminished 5th, and augmented 4th, which we will discuss in Unit 9.

17. *Harmony and Rhythm.* (See Unit 3, Sections 6–7.) Patterns of chord change create groupings and accents, and consequently exert a strong influence on our impression of rhythm. Especially in simple styles with more or less uniform note values and few changes in texture, the succession of chords can be the most important factor in defining the rhythm. In general, repeating a chord attracts very little accent. Because there is minimal contrast, the ear tends to hear the repeated chord as an extension of the preceding one. Changing a chord, on the other hand, tends to attract an accent; a "new" chord, therefore, tends to sound rhythmically stronger than a repeated one.

Although conflict between rhythm and meter is a very important compositional resource, it demands a good deal of skill and experience—and usually a more complex texture than occurs in harmony exercises. For the time being,

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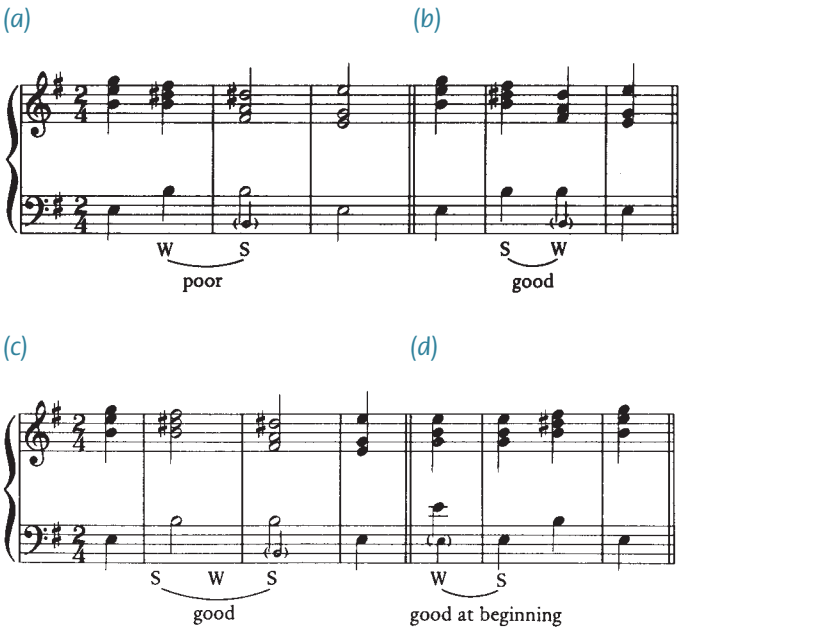
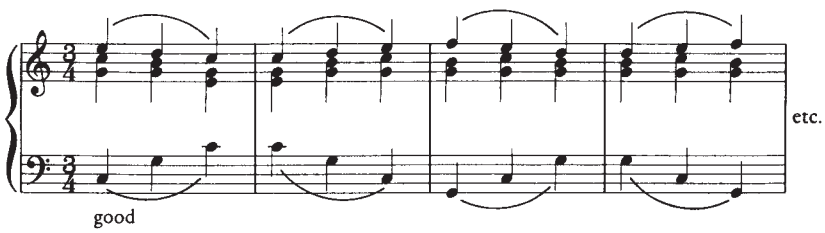
therefore, organize your written work so that the changes of chord support the meter. Avoid repeating a chord from a weak to a strong beat, for this contradicts the meter (Example 7-20). Repeating a chord from a strong beat to a weak beat is permissible, and repetition from a strong beat, through a weak beat, to the next strong beat is also possible. Weak–strong repetition of an *initial* tonic emphasizes the tonality and is therefore justifiable.

7-20 *harmony and rhythm*



Sometimes the segmentation of a musical idea into rhythmic or melodic groups creates patterns that also justify weak–strong repetition; in such cases, we hear the weak beat as the end of one pattern rather than as an upbeat to the next (Example 7-21).

7-21 *possible weak–strong repetitions*



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POINTS FOR REVIEW

1. I-V-I is the basic harmonic progression. V leads to I by harmonic motion in the bass and by contrapuntal motion in the upper voices.
2. I and V (and every other major or minor root-position triad) can be expanded by changing the position of the upper voices over a sustained bass.
3. I supports $\hat{1}$, $\hat{3}$, and $\hat{5}$. V supports $\hat{5}$, $\hat{7}$, and $\hat{2}$.
4. V-I at the end of a phrase is an authentic cadence; if the soprano leads to $\hat{1}$, the result is a *perfect* authentic cadence. I-V is a semicadence (or half cadence).
5. In doubling I or V, the root is best; next best is the 5th; the 3rd of I is possible. The leading tone (the 3rd of V) must not be doubled.
6. In minor, the 3rd of V must be raised to form a leading tone.
7. V^7 is V^5_3 plus a 7th above the bass. This 7th is dissonant and must resolve *downward by step* ($\hat{4}$-$\hat{3}$). When moving from V^7 to I, avoid similar motion into doubled $\hat{3}$. The 7th of V^7 often enters by stepwise preparation as a passing or neighboring tone, less often by leap as an incomplete neighbor.
8. V^7, which supports $\hat{4}$, $\hat{5}$, $\hat{7}$, and $\hat{2}$, intensifies motion to I. V^7-I is therefore good at an authentic cadence, but V^7 is not normally the goal of a semicadence.
9. Common soprano patterns for I-$V^{(7)}$-I include neighboring tones (Example 7-5) and passing tones (Example 7-6), tones of figuration from strict counterpoint (Unit 5) that receive chordal support in harmonic contexts.
10. V^7 may be complete, with no tone doubled, or the 5th may be omitted and the root doubled. Moving from V^7 to I with $\hat{7}$ in the soprano will require that one of the chords be incomplete. If the I is incomplete, the root will usually be tripled.
11. $V^{8\text{-}7}$ is a common way of expanding V at authentic cadences. If the 7th of V^7 is transferred from one upper voice to another, it must resolve in the last voice.
12. When repeating a chord, strong–weak repetition is good; weak–strong repetition is poor; strong–(weak)–strong repetition is good.

EXERCISES

Suggestions for doing the exercises.

- Avoid chords and techniques that have not yet been explained in the text.
- Use note-against-note texture for the exercises; avoid the use of passing tones, neighboring tones, suspensions, and the like until they have been presented and explained in detail in the text.
- Learn to *hear* what you write. Sing the given melody or bass so that you know what it sounds like; sing the individual lines of your harmonizations, and play your completed exercises at the piano.
- In harmonizing melodies, remember that $\hat{5}$ belongs both to I and $V^{(7)}$. In deciding which to use, remember to avoid weak–strong repetitions of the same chord.
- Check for unnecessary leaps in the alto and tenor voices. Remember the general guidelines: keep common tones; move by step; and then, if necessary, use a small leap. Be sure to check that all triads and seventh chords contain a 3rd.

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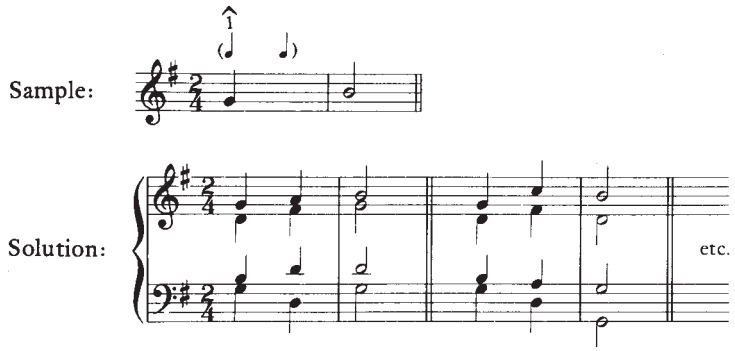
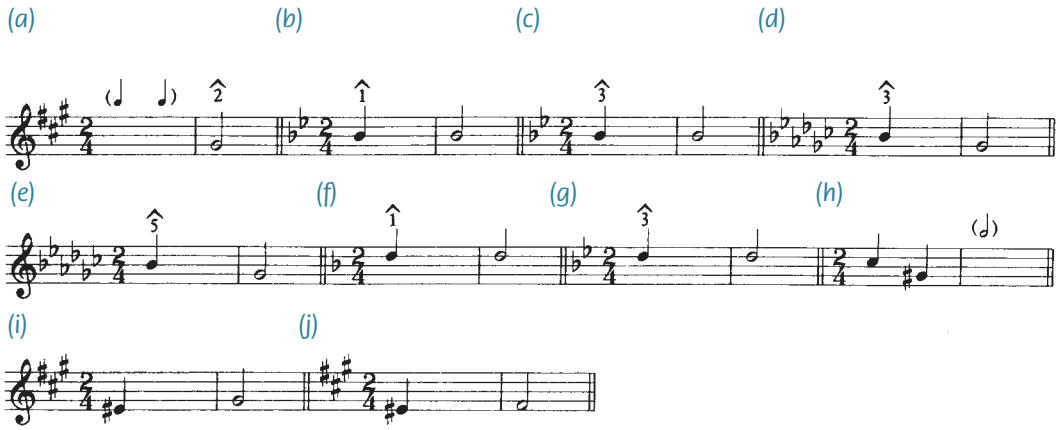
CHECKING YOUR WORK

Chord Construction

1. Be sure each chord contains a *root* and a *3rd*.
2. Make sure that neither the *leading tone* nor the *7th* of V^7 is doubled.

Voice Leading

1. When you've written a chord, check to see if it contains a *perfect 5th;* if it does, be sure when you write the next chord not to have another perfect 5th in the same pair of voices.
2. Check for *octaves* in the same way, and make sure the octave isn't on the leading tone!
3. Be sure the *7th* of V^7 resolves down by step.

1. Preliminaries. Complete the following melodic fragments and set for four voices in note-against-note texture, so that each melody tone gets a chord.

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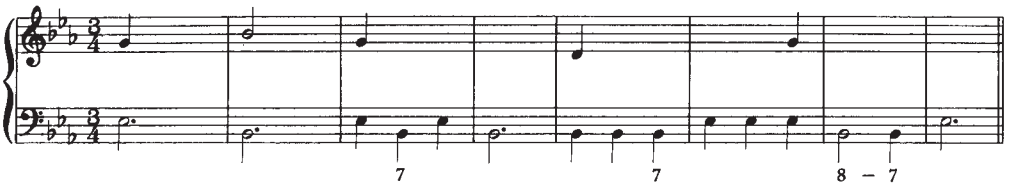
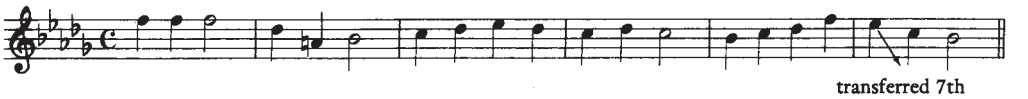
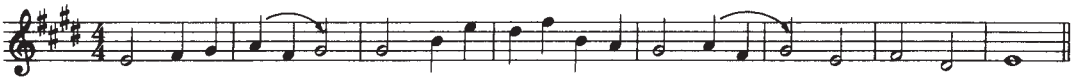
MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

2. Figured bass with some melody tones. Complete the soprano and add inner voices.

3. Melody. Set for four voices; harmonize each tone of the melody.



4. Melody. Set for four voices.

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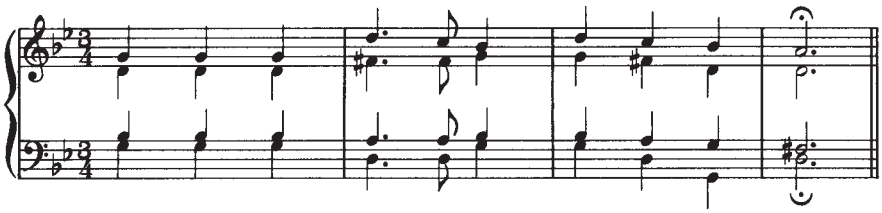
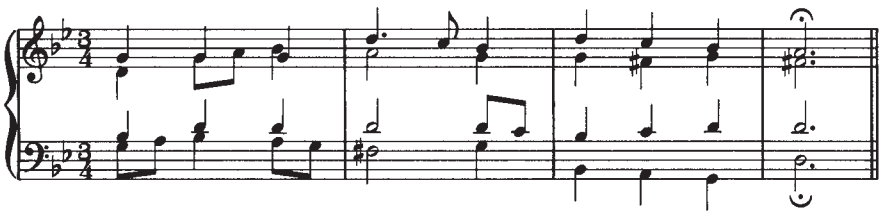
UNIT

8

I^6, V^6, vii^{o6}

8-1

(a) Chorale melody, "Das neugeborne Kindelein"

(b) Bach, Chorale 178

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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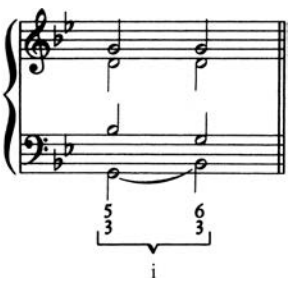
I⁶ and V⁶

1. **New Possibilities for the Bass Line.** Example 8-1 shows two settings of the first phrase of a chorale melody. The first setting, done by us for purposes of illustration, uses only I, V, and V^7, the chords discussed in Unit 7. The second, a harmonization by Bach, adds three important $\frac{6}{3}$ chords: I^6, V^6, and vii^{o6}. There is a considerable difference, to put it mildly, in the effect of the two bass lines. The first is rather primitive. Confined to two tones, it can provide only the minimal harmonies implied by the melody. On the other hand, Bach's bass with its three new scale degrees ($\hat{3}$, $\hat{7}$, and $\hat{2}$) is far more sophisticated. Here the listener can sense a distinction between goals of motion and intermediate steps. In addition, the bass has a partly melodic or contrapuntal character arising out of the stepwise line (review Unit 4, Section 21). Both these characteristics relate directly to the use of $\frac{6}{3}$ chords.

2. **I⁶ and V⁶: Expanding I and V.** In Example 7-1, we saw how chords can be extended by changing tones in the soprano line. However useful that possibility is, musical composition would not have evolved very far if composers had not learned to extend a chord by changing its bass tone. Perhaps the most frequent and important way of expanding *any* major or minor triad is by moving the bass between the root and 3rd of the chord (Example 8-2). This, of course, changes the position of the chord from $\frac{5}{3}$ to $\frac{6}{3}$ (or the reverse). In this context, $\frac{6}{3}$ functions as an inversion of $\frac{5}{3}$. Such a procedure, reflecting the consonant skip from second-species counterpoint, creates a melodic activity in the bass that makes it possible to continue the same harmony without monotony. Thus, in bar 1 of the Bach excerpt the initial tonic is expanded by a motion in the bass from $\hat{1}$ to $\hat{3}$ and back, producing the succession $\frac{5}{3}$-$\frac{6}{3}$-$\frac{5}{3}$. (The eighth-note A's are passing tones and do not affect the harmony. The crossing of the alto voice over the soprano—a relatively unusual event in Bach's chorales—is brought about by the imitation in the alto of the bass figure G-A-B♭.) At the beginning of a Handel variation (Example 8-3a), both I and V are expanded. Here, the $\frac{6}{3}$ chords come first, producing a pattern of descending 3rds (8-3b and 8-3c).

8-2 $\frac{6}{3}$ *expands* $\frac{5}{3}$



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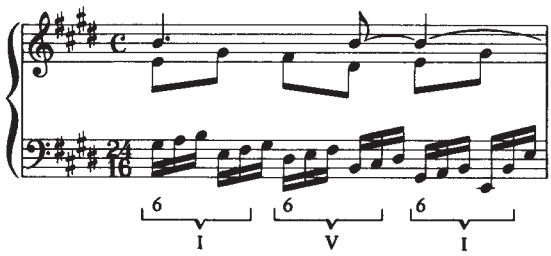
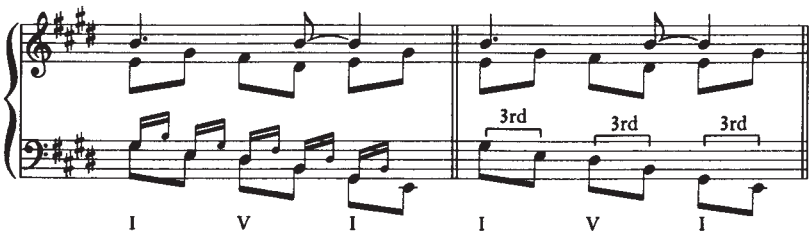
8-3

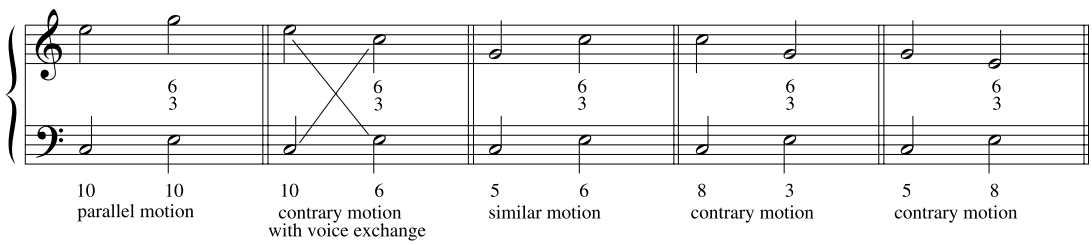
(a) Handel, Double IV *(from Harpsichord Suite No. 5)*



(b) *(c)*

3. $\frac{6}{3}$ *Expanding* $\frac{5}{3}$. Example 8-4 shows the most important possibilities for the soprano over the bass progression I-I⁶ (which could also be V-V⁶, and so on). Particularly important, because of their far-reaching compositional applications, are parallel 10ths between the outer voices (8-4a) and the voice exchange (interchanging two tones between two voices, as in 8-4b).

8-4 *I-I⁶ and soprano*

(a) *(b)* *(c)* *(d)* *(e)*



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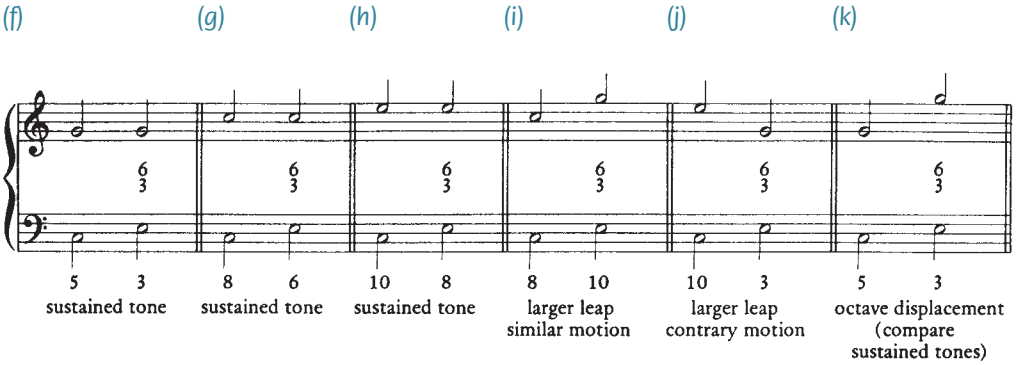
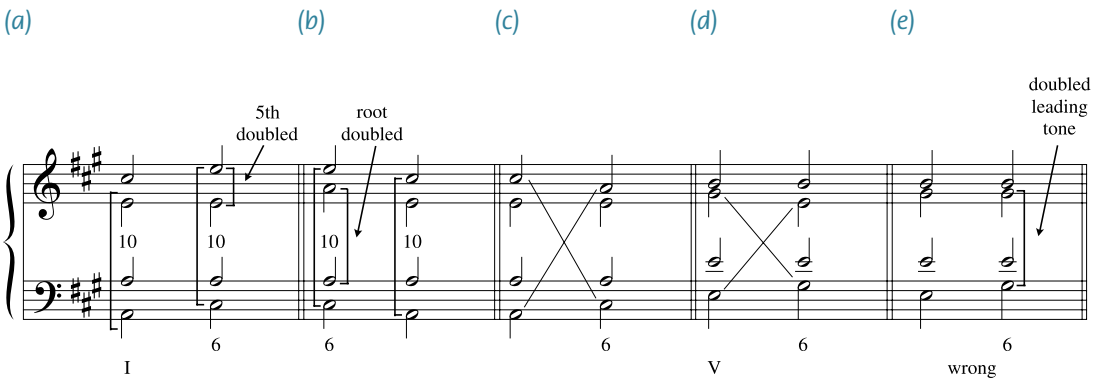
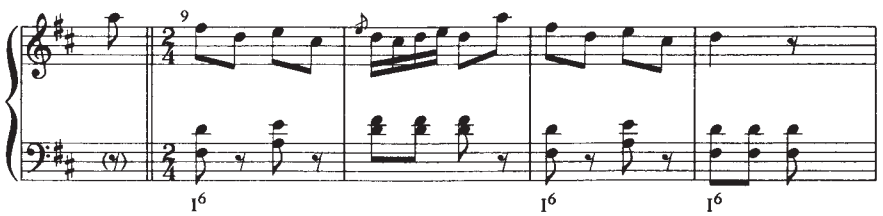


4. *Doubling in I⁶ and V⁶.* Any tone of I⁶ may be doubled; doubling the soprano often gives a good sonority. In V⁶, the leading tone must *never* be doubled. Both the remaining tones of V⁶ ($\hat{2}$ and $\hat{5}$) are possible choices. Example 8-5 shows characteristic voice leadings in four parts.

8-5 *I⁶ and V⁶ in four voices*



5. $\frac{6}{3}$ *Substituting for* $\frac{5}{3}$. I⁶ and V⁶ can support the same melody tones as I and V; they imply the same harmonic function, though less strongly. They can, therefore, substitute for $\frac{5}{3}$ in some circumstances. For example, I⁶ may replace I where the greater stability of the root position chord is not needed, as in Example 8-6, a fragment from Schumann's *Papillons*.

8-6 *Schumann, Papillons, Op. 2, Finale*

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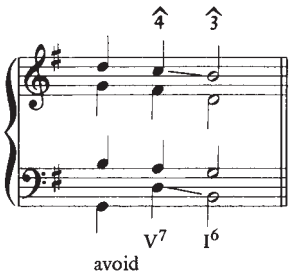
However, the two positions are by no means completely interchangeable. $\frac{6}{3}$ chords attract less accent than do their root-position equivalents and give a more flowing effect; their use imparts a melodic character to the bass line. This is largely because the 6th, the most characteristic interval of the $\frac{6}{3}$ chord, is a much less stable consonance than is the 5th, which occurs in root position. Therefore, where stability is needed, as in most beginnings and virtually all endings, $\frac{6}{3}$ is *not* a satisfactory substitute for $\frac{5}{3}$.

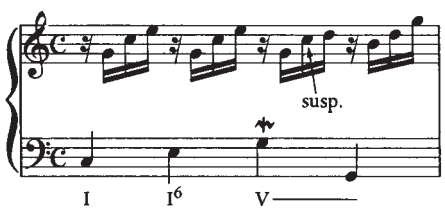
A further limitation on the use of I⁶: In Units 5 and 6 we discussed how perfect octaves and 5ths in two-part counterpoint should not be approached in similar motion. In simple harmonic contexts, the progression of V⁷-I⁶—with $\hat{4}$-$\hat{3}$ in the soprano—results in a bad set of hidden octaves, particularly if I⁶ is in a rhythmically strong position (Example 8-7). Review the discussion of hidden octaves in Unit 6, Section 18.

8-7 V⁷-I⁶



6. I-I⁶-V: *Arpeggiation in the Bass.* A bass motion from I to V can alight on $\hat{3}$ along the way. If tonic harmony is sustained above the $\hat{3}$, a I⁶ chord will result, as in Example 8-8a. Although the harmony changes from I to V, the bass line arpeggiates the tonic triad, a feature that helps the listener relate the whole progression to the governing tonic. The easiest way to accomplish this arpeggiation is simply to move up from $\hat{1}$ to $\hat{3}$ and from $\hat{3}$ to $\hat{5}$, but a motion down a 6th from I to I⁶ is also possible (Example 8-8b). Continuing on to I (Example 8-8c) produces a larger arpeggiation, and one that sounds more self-contained, ending as it does on the tonic note. Bass arpeggiations like these are an important way of expanding the initial tonic harmony of the basic I-V-I progression.

8-8

(a) Bach, Little Prelude, BWV 924

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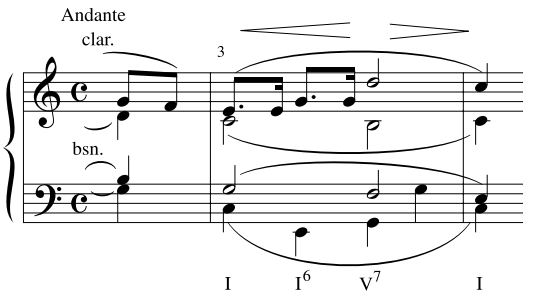
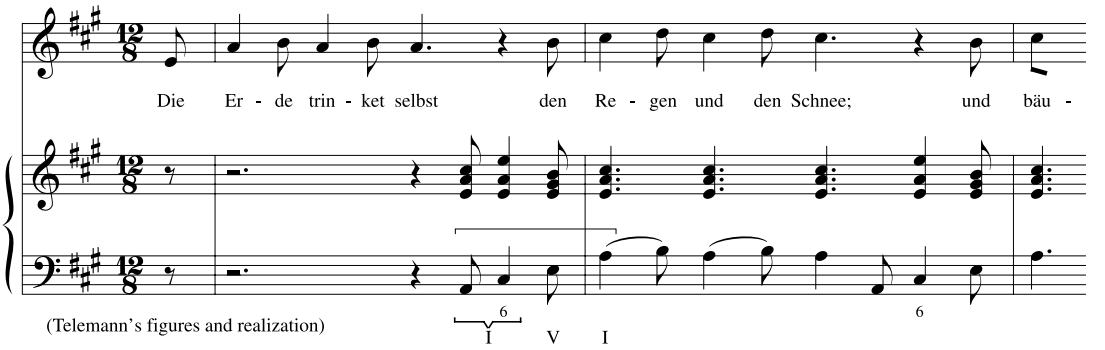
(b) Brahms, Symphony No. 3, Op. 90, II



(c) Telemann, "Die durstige Natur"



(Telemann's figures and realization)

translation: The earth itself drinks rain and snow.

7. V⁶ within Expanded Tonic. Using V⁶ between two root-position tonics produces the stepwise bass line $\hat{8}$-$\hat{7}$-$\hat{8}$ and makes possible a contrapuntal expansion of tonic harmony. Here the specific function of V⁶ is that of a *neighboring chord*, which relates to the neighbor note of third-species counterpoint (Unit 5, Section 11). Where a clear expression of the harmonic 5th relationship is needed (as in most cadences), root-position V should appear, but in other situations, especially near the beginning or the middle of phrases, V⁶ often functions more effectively. Compare bars 1–2 of the two chorale settings shown in Example 8-1.

Example 8-9 shows three characteristic uses of V⁶ within an expanded tonic. In 8-9a, V⁶ supports $\hat{2}$ in a rising soprano line, the kind that frequently occurs at the beginning of a phrase. In 8-9b, V⁶ forms an effective support for $\hat{5}$; the stepwise bass balances the disjunct soprano. The same is true of 8-9c where the melodic progression would be virtually impossible with root-position i-V-i because of the consecutive octaves.

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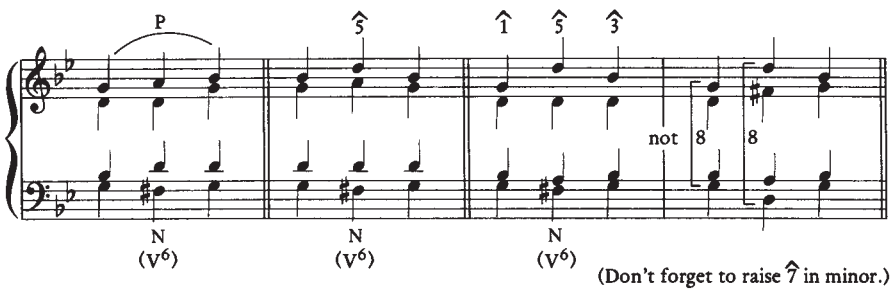
8-9 *V⁶ within an expanded tonic*

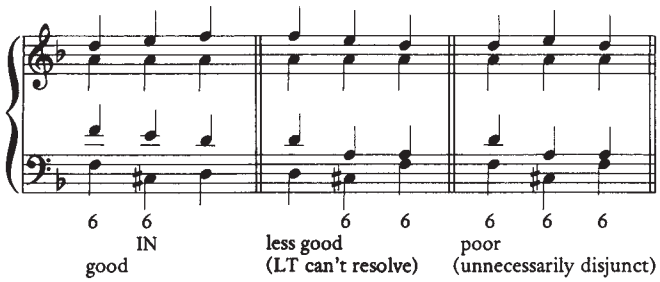
(a) *(b)* *(c)*



I^6 can replace the initial tonic in the progression I-V^6-I. Here the bass of V^6 functions as an incomplete neighbor to I. In minor (Example 8-10), the progression produces a perfectly good diminished 4th in the bass line (compare Example 7-9c, tenor). Because $\hat{7}$ is active in the direction of $\hat{8}$, V^6 normally continues on to i^5_3, not i^6.

8-10 *i^6 replacing i^5_3*

(a) *(b)* *(c)*



The preceding examples highlight an essential aspect of tonal composition: tones of figuration appear not only as simple *decorations* of chords (review Unit 5, Section 16), but they may also *support* chords in broader harmonic motions. The bass motion in the progression I-I^6, for instance, expands the tonic through a consonant skip, whereas the motions in Examples 8-9 and 8-10a include chords built on neighbor and incomplete neighbor notes (compare to the simpler technique of expansion discussed in Unit 7, Section 2).

8. $\frac{5}{3}$ Expanding $\frac{6}{3}$. In most cases where the $\frac{6}{3}$ and $\frac{5}{3}$ positions of a chord appear together or in close conjunction, $\frac{5}{3}$ is the principal chord, because of the stability of its perfect 5th. However, rhythmic and melodic factors may cause the reverse to be true. In an excerpt from Handel's G-minor Oboe Concerto (Example 8-11), both the strong rhythmic position of the first F♯ and its stepwise connection to the tonic, G, make the V^5_3 chord subordinate to its first inversion. (Note that the incomplete chords in this example would be filled in by the continuo player.)

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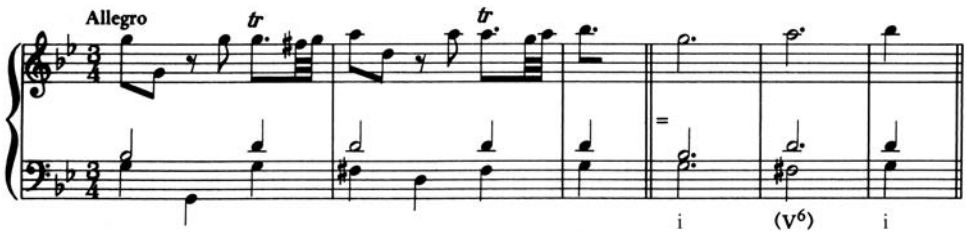
8-11 *Handel, G-minor Oboe Concerto, IV*

(a) *(b)*

Brief expansions of $\frac{6}{3}$ chords occur fairly often; however, for large-scale expansions where the chord becomes the basis of an entire section (like the V in Example 7-1, bars 17–27), the stable sonority of the root position is necessary.

vii°6 (Leading-Tone Triad)

9. $\hat{2}$ in the Bass Line. A bass line that expands tonic harmony by moving from $\hat{1}$ to $\hat{3}$ (or from $\hat{3}$ to $\hat{1}$) can take on a more melodic character by including a passing tone on $\hat{2}$. The passing $\hat{2}$ can become more prominent if it forms part of a chord; in this case we speak of a *passing chord*. A particularly useful passing chord built on $\hat{2}$ is vii°6; go back to Example 8-1b and notice how convincingly the vii°6 of bar 3 leads from i6 to i. The two stepwise motions to $\hat{1}$—from the adjacent pitches $\hat{2}$ and $\hat{7}$—combine with the descent of $\hat{4}$ to $\hat{3}$ and produce a strong sense of directed motion. The vii°6 chord contains the three upper tones of V7 and, like it, can support $\hat{7}$, $\hat{2}$, and $\hat{4}$ in the soprano. Because of the stepwise bass, however, vii°6 functions more typically as a melodic, contrapuntal chord than a cadential, harmonic one. Notice another characteristic of the bass lines in Example 8-12a. The interval G-B of the tonic triad is filled in with the passing tone A; the resulting line G-A-B is consequently a *linear* expression of the lower third of I. Such lines, which delineate the intervals of triads, are known as *linear progressions*. In this case, the line is referred to as a 3rd-progression because the bass spans a third. We will encounter other types of linear progressions as our harmonic vocabulary increases.

Example 8-12 shows some typical outer-voice possibilities for a vii°6 that passes from I to I6. Very often, as with I-I6 or I6-I, the soprano will form parallel 10ths or a voice exchange with the bass (Examples 8-12a and b). Because the soprano moves by step between two tones of the I chord, it participates in expressing the expanded tonic harmony. Thus, both outer voices join forces to create a counterpoint that animates an extended or *prolonged* tonic. Because it produces stepwise motion in the bass and permits it to occur in the soprano as well, vii°6 effects a contrapuntal expansion of the disjunct, arpeggiated progressions shown in Examples 8-4a and b. Other possibilities for the soprano are shown in 8-12c–e; they are by no means the only ones. In addition to its basic function of passing between I and I6, vii°6 has another important function: it can form a *neighboring chord* to I or I6 (Example 8-13).

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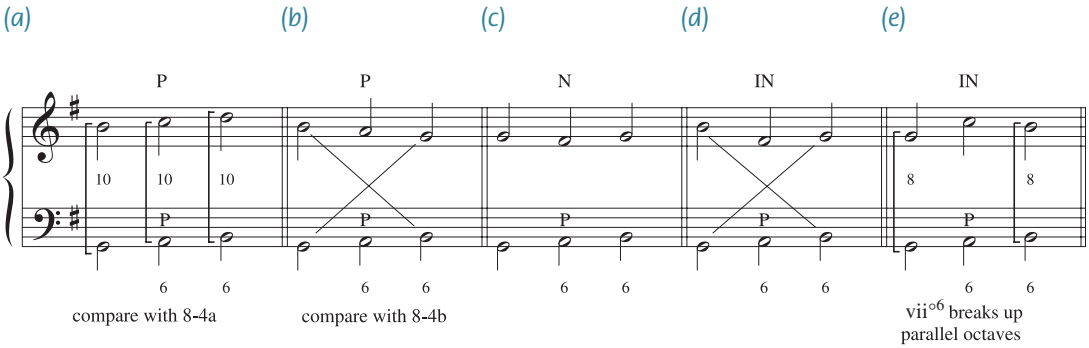
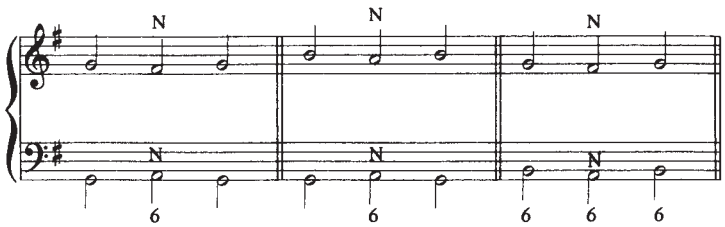
8-12 *passing vii°⁶ and soprano*



8-13 *neighboring vii°⁶ and soprano*



10. *Doubling vii°⁶.* It is usually best to double the bass tone, $\hat{2}$, because this is not part of the tritone; however, voice-leading considerations may make doubling $\hat{4}$ preferable. The leading tone must never be doubled.

11. *Resolution of Tritone.* The vii°⁶ contains an augmented 4th or diminished 5th in the upper voices. Because the bass of vii°⁶ is consonant with both the other tones, the effect of the dissonance is considerably softened. Very frequently, the tendency of the tritone to resolve regularly ($\hat{7}$ to $\hat{8}$ and $\hat{4}$ to $\hat{3}$) is offset by other considerations such as achieving a complete tonic chord or stepwise voice leading. Examples 8-14–8-17, taken from Bach chorales, illustrate some typical voice leadings, and you will find it useful to consult them when doing your written work.

The dissonance will often resolve normally, as in Example 8-14. However, if the dissonance is an augmented 4th, it can move to a perfect 4th, $\hat{4}$ moving up to $\hat{5}$ (Example 8-15).

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8-14 vii°6: *normal resolution of dissonance*

Bach Chorales

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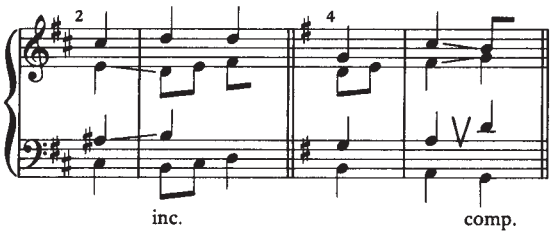
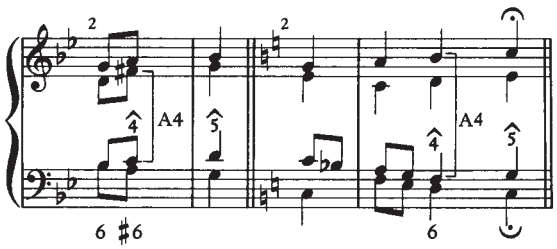
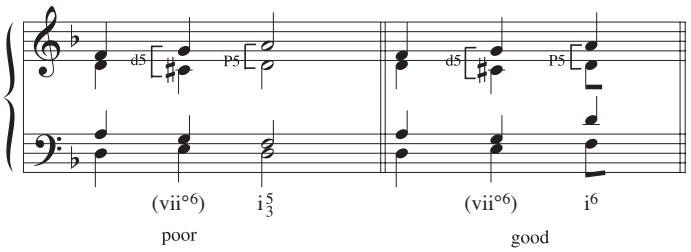

8-15 vii°6: *A4-P4*

Bach Chorales

(a) No. 72 *(b)* No. 40

If the dissonance is a diminished 5th, moving $\hat{4}$ up to $\hat{5}$ produces the problematic interval succession d5-P5 (Example 8-16a). Bach tends to resolve the diminished 5th normally when vii°6 moves to I^5_3 (Example 8-14b). However, if vii°6 moves to I^6 Bach often allows $\hat{4}$ to move up to $\hat{5}$ (Example 8-16b). In this situation, $\hat{3}$, the tone of resolution, is transferred into the bass, where it forms a very prominent element of the chord, and the parallel 10ths above the bass make for a fluent progression. This voice leading occurs frequently.

8-16 vii°6: *d5-P5*

(a) *(b) Bach, Chorale 47*



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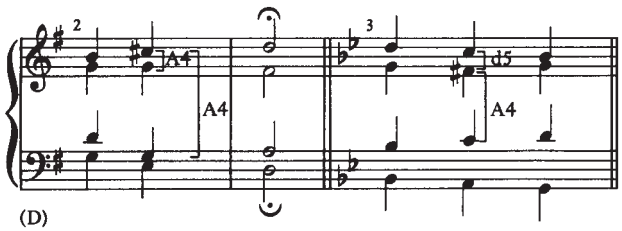
Quite often Bach doubles $\hat{4}$, a strategy that permits resolution of one of the tritones, stepwise voice leading, and a complete chord (Examples 8-17a and b). If doubling $\hat{4}$ results in both a diminished 5th and an augmented 4th, as in 8-17b, resolve the diminished 5th.

8-17 *vii°⁶: $\hat{4}$ doubled*

Bach Chorales

(a) No. 69 *(b) No. 281, simplified*



The vii°$^5_3$ occurs much less frequently than the vii°⁶ because of the dissonance (diminished 5th) involving the bass. Its use will be explained in Unit 16; until then *avoid it!*

12. Avoiding Unwanted Cadential Effect. In a chorale, the unvarying rhythmic pulse (and to some extent the shortness and irregularity of the phrase lengths) often makes the progression V⁽⁷⁾-I undesirable except at cadential points, especially if the soprano moves to $\hat{1}$. For the moment, most of your exercises will be chorale-like in rhythm and texture, so you should generally seek alternative progressions except where a cadence is needed. Using vii°⁶ or V⁶ instead of root-position V, or using I⁶ instead of I$^5_3$, will also help you become more familiar with these new chords.

13. Harmony and Rhythm. In Unit 7, Section 17, we saw that repeating a chord from a weak to a strong beat tends to neutralize the metrical accent. Moving between two positions (for example, $^5_3$ and $^6_3$) of the same chord from a weak to a strong beat can also cause contradiction of the meter (V, V⁷, and vii°⁶ count as the same chord). Thus, in Example 8-18a, maintaining the same chord across the bar line creates an unintended syncopation; the weak beat (new chord) actually sounds stronger than the following strong beat (same chord).

Example 8-18b shows how this problem can be avoided. Note that in setting $\hat{5}$ as a melody tone, the choice between I⁽⁶⁾ or V⁽⁶⁾ is often decided by the rhythmic position of $\hat{5}$ and the melody tone that follows. Example 8-18c, on the other hand, demonstrates a situation where a weak–strong motion within the same harmony is possible. Here, the repeated motive in the soprano creates enough emphasis on the downbeat to offset the lack of contrast between V⁶ and vii°⁶. Compare Example 7-21.

Awareness of these rhythmic implications of chord progression is of great importance for harmonizing melodies, setting unfigured basses, and writing phrases. This is especially true in simple textures where there are no quickly

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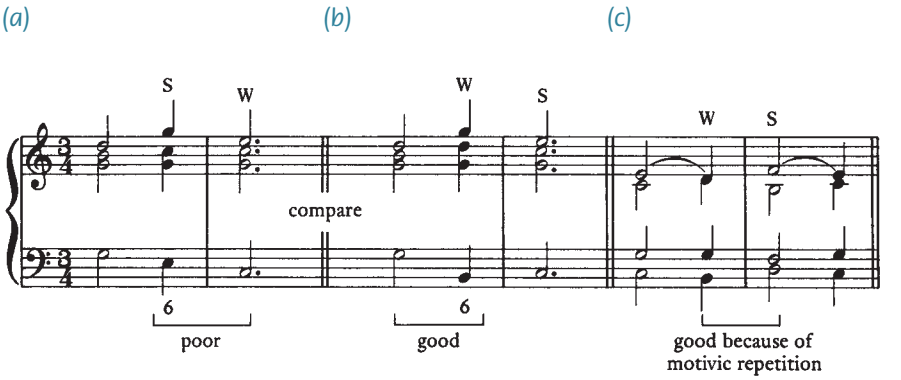
moving passing or neighboring tones to enliven the rhythm and to produce a contrast in sonority lacking in the progression of chordal tones.

8-18 *Chord progression and rhythm*



14. *Analytical Symbols.* Compare Examples 8-15 and 8-16, and you will discover somewhat different though compatible methods of harmonic analysis. In Example 8-15, we use only the figured-bass symbol 6 to designate the vii^{o6} chords; in 8-16 we put in parentheses the Roman numeral as well as the 6. The parentheses highlight the contrapuntal function of these chords within an expanded tonic harmony. This method is a useful analytic tool, and we will use it from time to time throughout the book (as should you in your work) to help you recognize the role of counterpoint in harmonic textures.

POINTS FOR REVIEW

1. I^6 and V^6 expand root-position I and V. Important voice leadings in the progression I-I^6 or V-V^6 are parallel 10ths or voice exchange in the outer voices. I-I^6-V, possibly continuing to another I, produces an arpeggiation of tonic harmony in the bass. The leap in the bass I-I^6 or V-V^6 corresponds to the consonant skip of second-species counterpoint.
2. I^6 and V^6 may substitute for I and V where the stability of the root-position chord is not needed. V^6 functions as a neighboring chord (N) within an expanded tonic (bass: $\hat{8}$-$\hat{7}$-$\hat{8}$) or as an incomplete neighbor (IN) in the progression I^6-V^6-I.
3. Any tone of I^6 and V^6 may be doubled *except* the leading tone of V^6.
4. vii^{o6} functions as a passing chord between I and I^6 or as a neighboring chord to I or I^6.
5. In vii^{o6}, either $\hat{2}$ or $\hat{4}$ may be doubled, but never $\hat{7}$ (the leading tone).
6. The tritone in vii^{o6} often resolves normally ($\hat{7}$-$\hat{8}$ and $\hat{4}$-$\hat{3}$), with all voices tending to move by step. $\hat{7}$ moves normally to $\hat{8}$, but $\hat{4}$ may sometimes move to $\hat{5}$ if the dissonance is an augmented 4th; if it is a diminished 5th, $\hat{4}$ may move to $\hat{5}$ *only* if the bass moves to I^6 ($\hat{3}$). See Examples 8-14–8-17.
7. Avoid vii$^{o\frac{5}{3}}$ for the time being.
8. To avoid an unwanted cadential effect, don't use V$^{(7)}$-I$^{\frac{5}{3}}$ in the middle of a phrase if the soprano goes to $\hat{1}$. Use vii^{o6} or V^6 instead of root-position V$^{(7)}$, or use I^6 instead of I.
9. Avoid contradicting the meter: don't move between two positions of the same chord from a weak to a strong beat.

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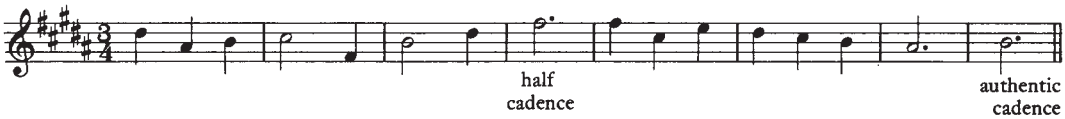
EXERCISES

Note. Beginning in this unit, the soprano and bass lines in the exercises frequently include idiomatic figures associated with chord progressions discussed in the unit. You will find it helpful, therefore, to *review the musical examples in the text* before and while you work on the exercises.

With the new chords in this unit, you can now make a distinction between cadential and noncadential functions. Therefore, in harmonizing a bass—figured or unfigured—*look for indications of cadences* and direct the soprano line to points of repose at these cadences. To prevent the bass from creating an unwanted cadential effect, lead the soprano to a $\hat{3}$ or $\hat{5}$ in preference to $\hat{1}$. In harmonizing a given soprano, also look for melodic halts that might indicate a cadential progression.

The somewhat larger vocabulary of chords that you now have permits more attractive melody harmonizations than were possible with the exercises in Unit 7, but the greater number of choices open to you imposes certain difficulties. The least productive way to respond to these difficulties is by proceeding one or two chords at a time. Try instead to think in larger units, so that you learn to "speak" in musical sentences rather than in single words or syllables. To do this, first scan the entire melody and determine where phrases begin and end; melodic halts that suggest cadences are your surest guide to phrasing. The sample melody that follows, for instance, divides into two four-bar units, ending with a half cadence and an authentic cadence, respectively. Sketching in the bass notes of the cadence will prove helpful even though you may wish to modify your original plan as you continue working.

Sample melody

The next step is to become aware of groups of melody notes that combine to express an underlying harmony. Writing the scale degrees above the melody will help you perceive these groups. In our example, the $\hat{3}$-$\hat{7}$-$\hat{1}$ of bar 1 suggests a tonic chord as basic harmony for the entire bar; the skip from $\hat{2}$ to $\hat{5}$ in bar 2 suggests an expanded V. Bars 3 and 4 arpeggiate a tonic chord, but expanding only one harmony will prevent your writing a cadence, so changing to V for bar 4 is your only sensible option. In sample solution 1, we have sketched in the main chords.

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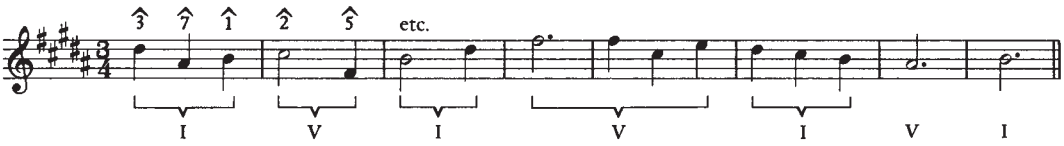
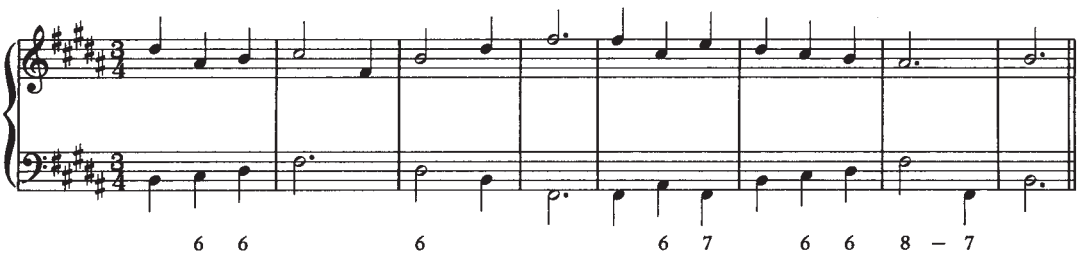
Sample solution 1

After determining the large harmonic structure, fill in the bass line and the subordinate chords that help to expand the basic underlying harmonies; add figured-bass symbols to specify these chords. In sample solution 2, we have sketched in a possible harmonization. Note that the soprano above the prolonged tonics in bars 1, 3, and 6 moves between $\hat{3}$ and $\hat{1}$ or $\hat{1}$ and $\hat{3}$. These melodic patterns suggest the possibility of voice exchanges, with I^6 helping to extend tonic harmony. In bars 1 and 6, an active tone—$\hat{7}$ or $\hat{2}$—occupies the second beat; the $\hat{7}$ of bar 1 is an incomplete neighbor, and the $\hat{2}$ of bar 6 is a passing tone. To harmonize these tones, we would use vii^{o6}, functioning as a passing chord between I and I^6.

The voice exchange in bar 3, on the other hand, results from a simple arpeggiation, and the voice exchange would lead to a motion I^6-I without an intervening chord. The I^6, by the way, is a particularly good choice for the first beat of bar 3. Because the melody note is $\hat{1}$, a root-position tonic might produce an inappropriate cadential effect, and it might also lead to consecutive octaves from the V of the preceding bar. In bar 7, the downward octave leap in the bass and the 8-7 passing motion in an inner voice help to intensify the harmonic resolution into the final tonic through rhythmic activity. Note how the use of register—in particular the contrast between the $\hat{5}$ above and the $\hat{5}$ below the tonic—helps to give shape and direction to the bass line.

Sample solution 2



Check your work at the keyboard, but only after you have written at least a few bars. Before writing the alto and tenor, play the outer voices to make sure that these two crucial lines create a good counterpoint, with mainly imperfect consonances except at points of articulation (see Unit 2, Section 8). When you add the inner voices, be sure that you check carefully for possible errors. This final stage can sometimes present problems that call for flexibility and resourcefulness. The very beginning of this sample exercise is a case in point.

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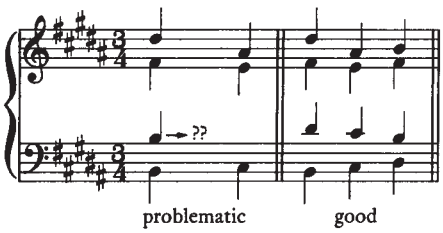
The soprano's downward leap against the rising bass carries with it the threat of parallel octaves, a doubled leading tone, or awkward leaps if the root of I is doubled. The best, though not the only, way to avoid these dangers is to double the 3rd of the opening tonic, as shown in sample solution 3b.

Sample solution 3 (bar 1)

(a) *(b)*



HARMONIZING A MELODY

1. Having determined the key, be sure you know the *scale degrees* represented by the given notes.
2. Figure out where the cadences are. It may be good to *sketch in the bass* for the cadences even if you have to make changes later.
3. Look for *idiomatic patterns* that expand I or V—especially those presented in this unit—for instance, lines that suggest a *voice exchange* or *parallel 10ths* in the outer voices.
4. Decide whether the melodic tone $\hat{5}$ is better supported by tonic or dominant harmony, remembering to avoid bad *weak–strong repetitions*.
5. Try not to create the effect of an authentic cadence in the middle of a phrase. For example, the melodic succession $\hat{2}$-$\hat{1}$ or $\hat{7}$-$\hat{1}$ should *not* be set with the progression $V^{(7)}$-I^5_3; vii^{o6}-I^6 would be much better.

1. Preliminaries. Using a different major or minor key for each, write short progressions (no more than six chords) that end with an authentic cadence and show the following chord combinations:
   a. Tonic expanded by $^6_3$; outer voices in parallel 10ths
   b. Tonic expanded by $^6_3$; outer voices exchange
   c. V expanded by $^6_3$; outer voices in parallel 10ths
   d. V^6 as neighbor to I
   e. V^6 as incomplete neighbor to I
   f. vii^{o6} passing between I and I^6 with voice exchange
   g. vii^{o6} passing between I and I^6 with parallel 10ths
   h. vii^{o6} passing between I and I^6 with soprano $\hat{7}$ as IN
   i. vii^{o6} passing between I^6 and I with soprano $\hat{4}$ as IN

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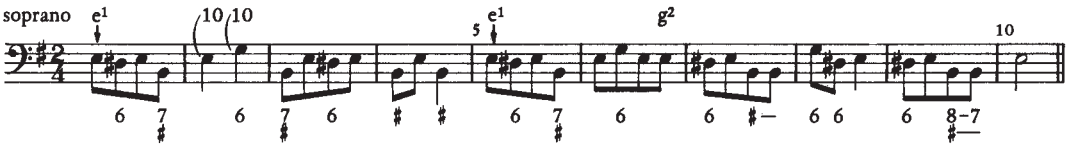
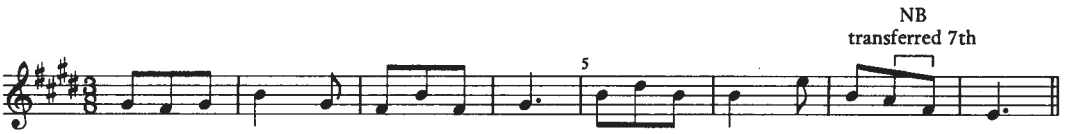
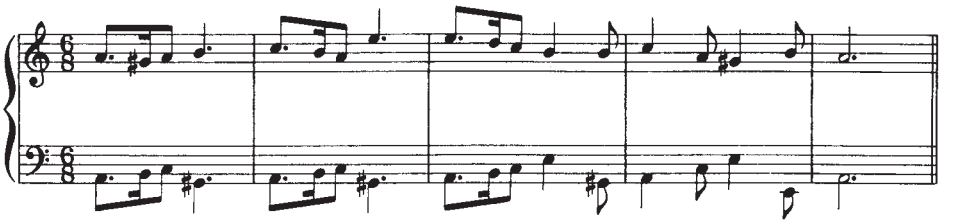
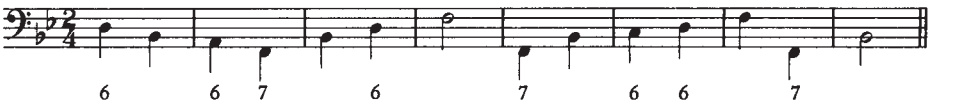
2. Figured bass. Add three upper voices. (This exercise does not use vii^{o6}.)



3. Melody. Use I, V, V^7, I^6, V^6. No vii^{o6}!

4. Outer voices given. Provide figures for the bass and add alto and tenor. Be able to describe the function of each chord.



MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

5. Figured bass given. Add three upper voices.

6. Melody given. Add three lower voices.

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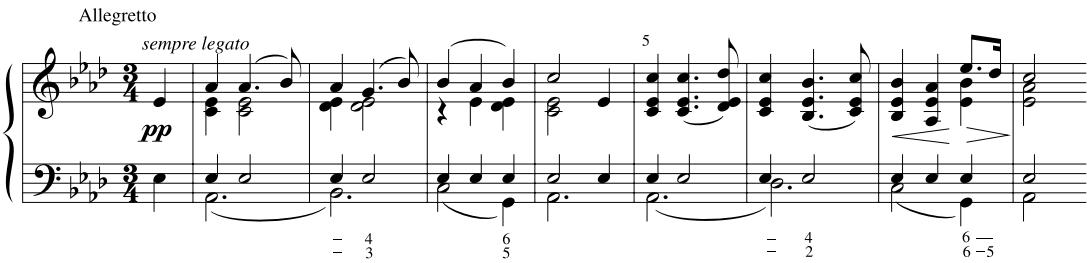
UNIT

9 Inversions of V^7

9-1* *Schubert, Impromptu, D. 935*



V^6_5, V^4_3, and V^4_2

1. *New Ways to Expand I.* It is hard to imagine a better introductory illustration of the inversions of V^7 than the opening eight bars of Schubert's Impromptu in A♭, D. 935 (Example 9-1). This eight-bar phrase contains only tonic chords (in $\frac{5}{3}$ and $\frac{6}{4}$ positions) and dominant chords in inversion; all dominant chords are inversions of V^7. The phrase unmistakably *expands an underlying tonic;* the important stable tones of the melody and bass, for example, are A♭ and C, both elements of the tonic triad. A sense of movement is contributed by the active outer-voice tones G, B♭, and D♭. In the bass, B♭ (bar 2) is a passing tone between A♭ and C; G (bar 3) forms an incomplete neighbor to the following A♭, and D♭ (bar 6) is an incomplete neighbor leading to C. These three active tones support the three inversions of V^7 in the order in which they appear in the Schubert—$\frac{4}{3}$, $\frac{6}{5}$, and $\frac{4}{2}$. Like V^6 and vii^{o6}, the inversions of V^7 prolong

* See Appendix II.

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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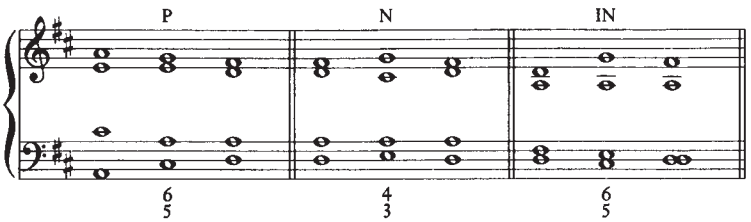
an underlying tonic through melodic-contrapuntal activity. Their bass tones function as neighbors (complete or incomplete) to the bass tones of I or I^6 or as passing tones leading from one to the other. Schubert's passage, in fact, provides further evidence of how inversions (functioning as neighboring and passing chords) can make bass lines melodically fluent, similar to lines in strict counterpoint (in contrast to the bass of Example 8-1a).

Compared with V^6 and vii^{o6}, the inversions of V^7 have an even stronger urgency to move to the tonic. This is because of the dissonances—2nd or 7th (as well as tritone)—that they contain. Starting with the late Baroque period, these are among the most frequently used of all chords. They fulfill several important compositional functions. In this unit we will concentrate on the most characteristic of these: to create movement within an extended tonic harmony, often (as in the Schubert example) the opening tonic of a large-scale harmonic progression.

2. *Descending Resolution of $\hat{4}$.* In the inversions of V^7, as in the root position, the contrapuntal function of the chord 7th ($\hat{4}$) imposes a descending stepwise resolution to $\hat{3}$. As in the root position, the 7th can appear as a descending passing tone, an upper neighbor, or an upper incomplete neighbor entering by leap (Example 9-2). The one frequent exception to the normal descending resolution of the 7th will be discussed later.

9-2 *function of $\hat{4}$ (7th above root)*

(a) *(b)* *(c)*



3. V^6_5. V^6_5, like V^6, has the leading tone as its bass and functions similarly as a neighboring chord to I (Example 9-3a). Any of the remaining chordal tones can appear in the soprano; perhaps the most characteristic soprano progression is $\hat{4}$-$\hat{3}$, as in the Beethoven excerpt (9-3b). Bar 3 of the Schubert Impromptu shows another characteristic function: there, the bass of V^6_3 forms an incomplete neighbor leading from I^6 to I. The bass of V^6_5 is involved in a dissonant relationship (diminished 5th) with $\hat{4}$ in one of the upper parts. Because the diminished 5th involves the bass it must resolve according to rule. Consequently, the bass of V^6_5 *always ascends* to $\hat{1}$ except when it forms part of an expansion of V^7—that is, when V^6_5 moves to another position of V^7 before resolving to I.

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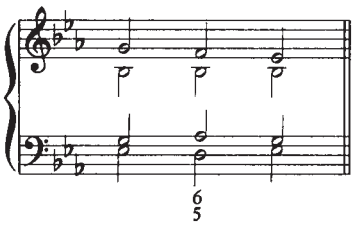
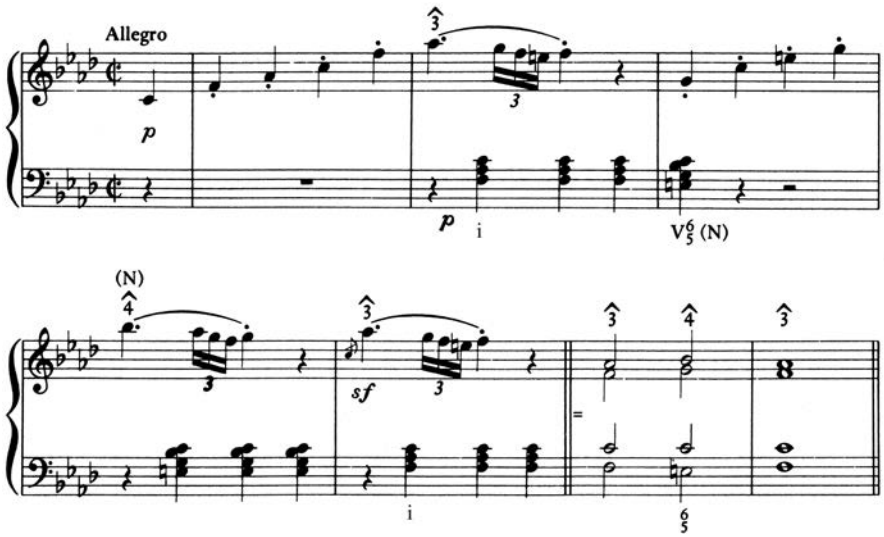
9-3

(a) V^6_5 as N to I

(b) Beethoven, Piano Sonata, Op. 2/1, I

4. V^4_3. Like vii°6, V^4_3 has $\hat{2}$ as its bass. V^4_3, in fact, resembles vii°6 so closely that they are almost interchangeable chords. The bass of V^4_3 is a more neutral tone than that of V^6_5 (or, as you will see, V^4_2) and can move convincingly either to $\hat{1}$ or to $\hat{3}$. Consequently V^4_3, like vii°6, forms a natural connection between I and I^6 and appears very frequently as a passing chord within an extended tonic, as in bars 1–3 of the Schubert example—bars that illustrate a most important detail of voice leading: the D♭ of bar 2 (right-hand part) moves up to E♭ in bar 3 rather than down to C. In other words, $\hat{4}$—the 7th of the root position—moves up to $\hat{5}$ rather than down to $\hat{3}$. This is by no means an unusual case. Very frequently V^4_3 leads from I up to I^6 in a progression that supports a $\hat{3}$-$\hat{4}$-$\hat{5}$ in an upper voice (often in the soprano, as in Example 9-4). In this case, scale degree $\hat{4}$ (the 7th of V^7) sounds less dissonant, because against the bass it functions as a consonant passing tone within a unified motion of parallel 10ths (less often 3rds). This usage of V^4_3 corresponds to the usage of vii°6 shown in Example 8-16b. Note that other uses of V^4_3 require the normal descending resolution—for example, its function as a neighbor of I, or (very frequent) as a passing chord leading down from I^6 to I (Example 9-5).

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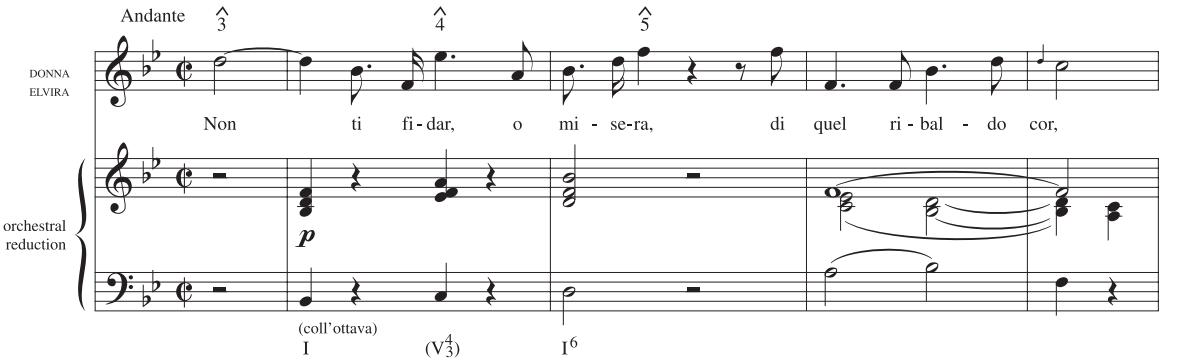
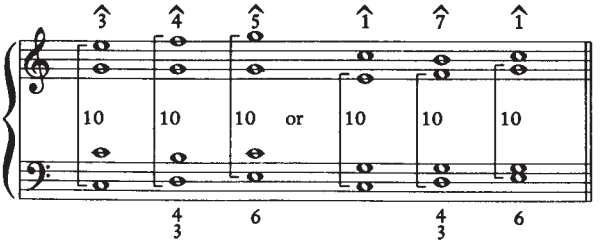
9-4 *Mozart, "Non ti fidar"* *(from Don Giovanni, K. 527)*

(a) V^4_3-I^6 ($\hat{4}$ *may move to* $\hat{5}$)



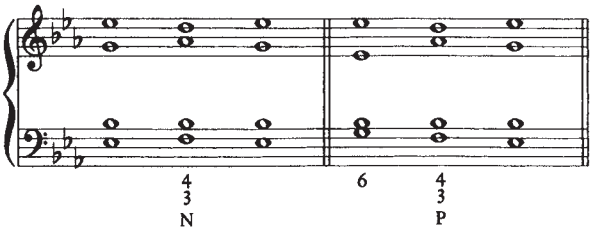
translation: O unhappy woman, don't trust that villainous heart.

(b)



9-5 V^4_3-I^5_3; $\hat{4}$ *must resolve to* $\hat{3}$

(a) *(b)*



Like vii^{o6}, V^4_3 most often occurs in a stepwise bass line. It can, however, form part of a double-neighbor figure, together with V^6 or V^6_5, as in Example 9-6 (review the double-neighbor figure in Example 5-12).

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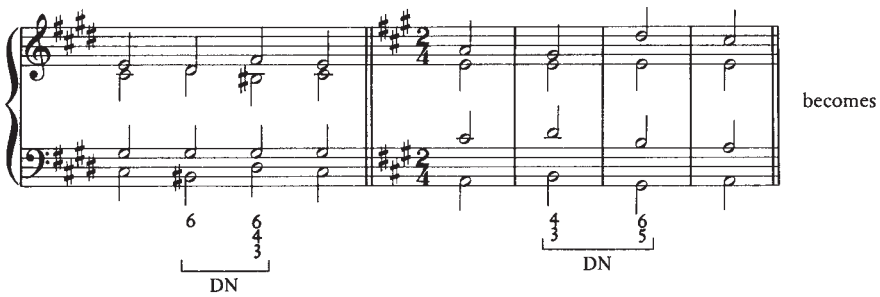
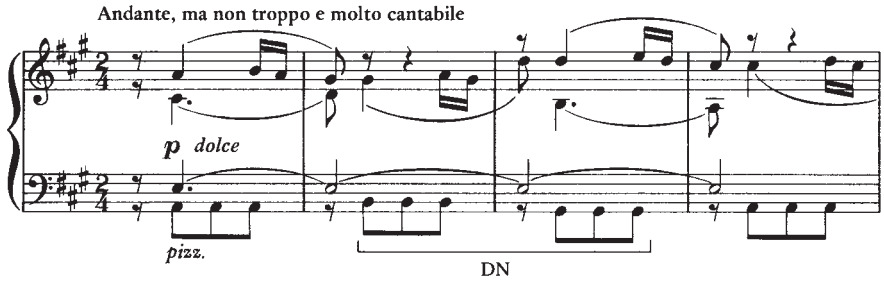
9-6 *double neighbors in bass*

(a) *(b)*



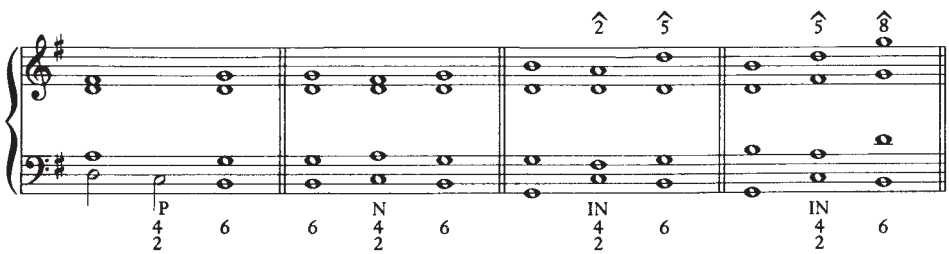
(c) Beethoven, String Quartet, Op. 131, IV



5. V^4_2. V^6_5 and V^4_3 resemble chords we already know: V^6 and vii^{o6}. V^4_2, however, functions differently from any chord we have previously encountered. $\hat{4}$ is its bass tone, so V^4_2 must move to a chord whose bass tone is $\hat{3}$ to resolve the dissonance by stepwise descent. For the present, the only possibility is a progression to I^6. But even later when other chords become available, the progression V^4_2-I^6 will remain by far the most frequent one. The bass of V^4_2 has two characteristic functions: descending passing motion from V to I^6 and upper neighbor—complete or incomplete—to I^6. These are shown in the chord progressions and the Bach Chorale excerpt of Example 9-7. Very characteristic: the soprano leaps up a 4th from $\hat{5}$ to $\hat{8}$ or—more frequently—from $\hat{2}$ to $\hat{5}$. These soprano leaps (supported by V^4_2-I^6) represent effective means for evading authentic cadences and provide the upper voice with a renewed high point from which it can lead again toward a cadence.

9-7 *functions of* V^4_2

(a) *(b)* *(c)* *(d)*



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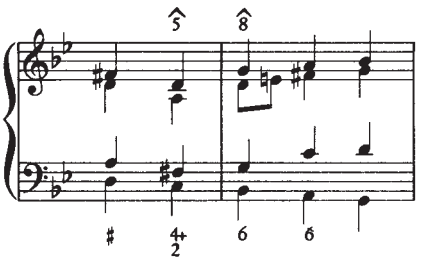
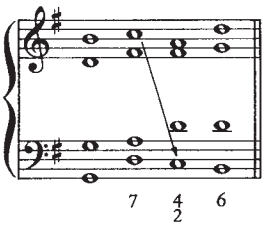
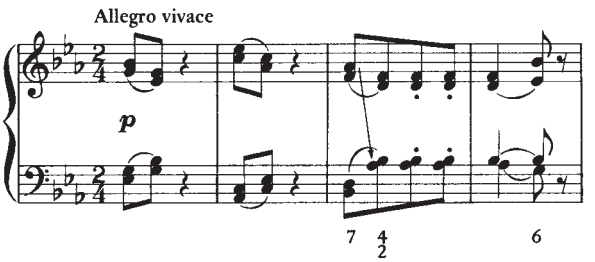
(e) Bach, Chorale 67

V^4_2 occasionally passes from V^7 (rather than V^5_3) to I^6. The 7th of V^7 transfers from one of the upper voices to the bass of V^4_2 and, of course, resolves in the bass. This provides a convenient way of moving from V^7 to I^6 (which cannot be done directly—compare Unit 8, Section 5). Example 9-8 illustrates this possibility.

9-8 V^7 to V^4_2

(a)



(b) Mozart, String Quartet, K. 428, IV



6. ***Double-Neighbor and Passing Figures.*** As we saw in Examples 9-6 and 9-8, double-neighbor and passing figures in the bass create opportunities for moving from V^7 to an inversion or from one inversion to another. Such progressions occur frequently. The chordal 7th ($\hat{4}$) will resolve in the last voice in which it appears (see Example 7-19).

7. ***Incomplete Chords.*** In Example 9-1, bar 6 contains an incomplete V^4_2. The special texture that Schubert creates here—in particular the E♭ sustained in both hands and in the octave doubling of the soprano line—makes it impossible

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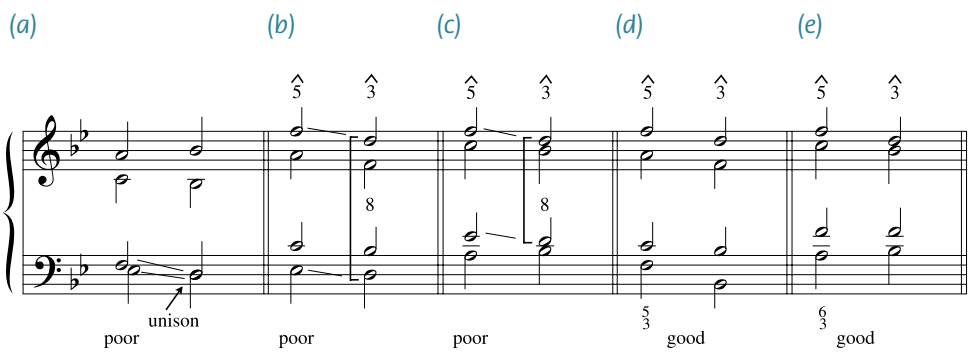
to introduce the missing G gracefully. In general, however, and especially in four-part vocal style, inversions of V^7 almost always appear as complete chords unless there are fewer than four parts; incomplete chords are seldom necessary or desirable.

8. ***Common Tones.*** In the inversion of V^7, $\hat{5}$ appears in one of the upper parts and is available as a common tone (with I). Repeating this common tone in the same voice produces a smooth connection with I and helps to reduce voice-leading hazards (review Examples 9-1–9-7). Sometimes, however, it is better *not* to repeat the common tone; for example, if the soprano demands the skip $\hat{5}$ to $\hat{8}$, as in Example 9-7d, repeating the common tone becomes impossible unless the inversion of V^7 is incomplete.

9. ***Hidden Octaves and Unisons.*** You will remember from our discussion of the progression V^7-I^6 (Example 8-7) that the resolution of V^7 can result in a bad set of hidden octaves. The same situation can occur with inversions of V^7, as illustrated in Examples 9-9a–c. In those cases where you want the melodic motion $\hat{5}$ to $\hat{3}$, avoid using V^7 or its inversion; use V^5_3 or V^6 instead, as in Examples 9-9d and e.

9-9 *similar motion to doubled* $\hat{3}$



Contrapuntal Expansions of Tonic and Dominant

10. ***Typical Figures for Bass and Soprano.*** Examples 9-10–9-13 illustrate some of the most important possibilities for expanding tonic harmony through the use of V^6, V^7 and its inversions, and vii^{o6}. In a sense, these examples summarize the contents of this unit and the preceding one. They are grouped according to typical bass-line figures, which clearly illustrate idioms from species counterpoint. The possibilities shown for the soprano are by no means the only ones, but they are among the most important; notice the great number of different soprano figures possible over the same bass. The more familiar you are with these progressions, the easier it will be for you to harmonize melodies, realize basses, and write phrases. Work with them, try to understand the principles they exemplify, and refer to them when you do your written work. Playing them at the keyboard (and supplying the inner voices) is also valuable, but trying to memorize them is not necessary.

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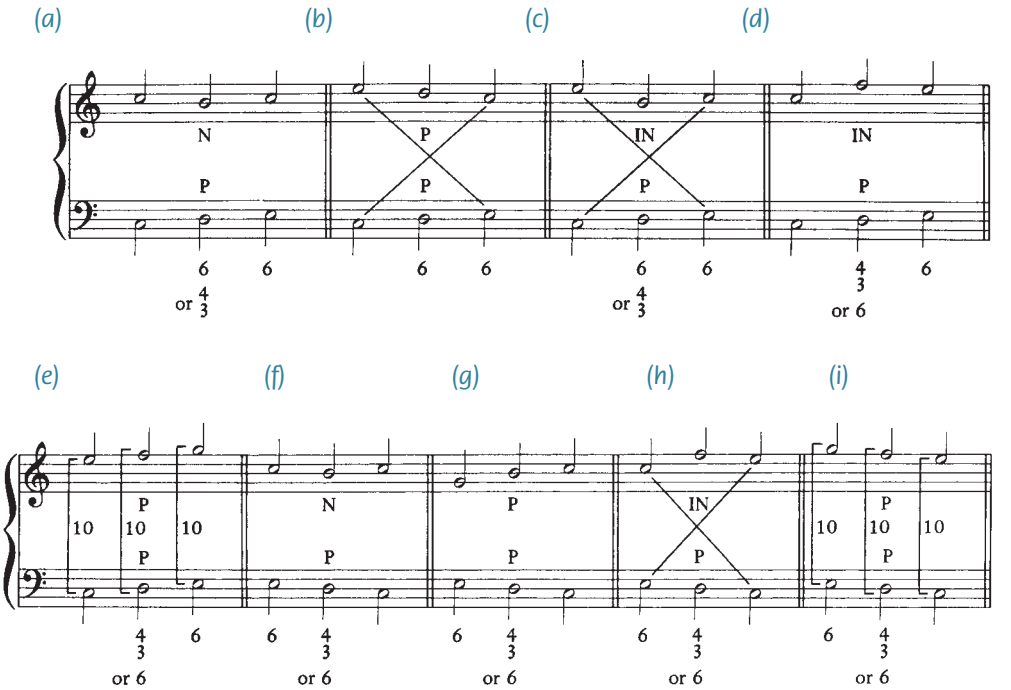
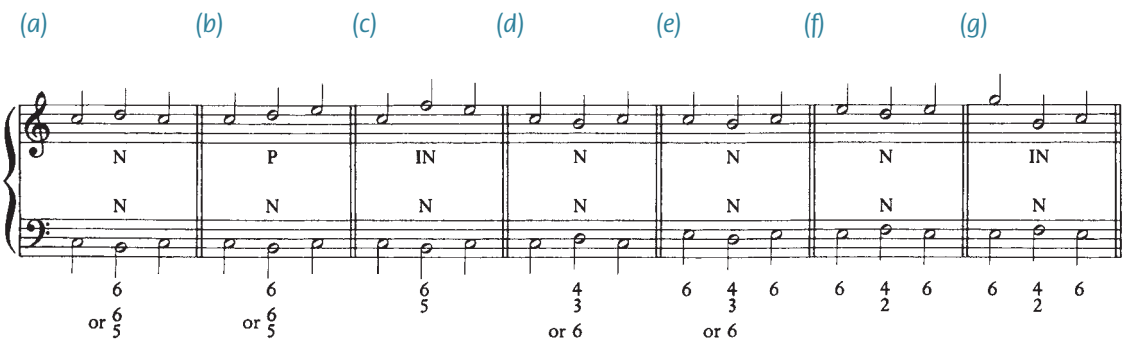
Passing Chords: The vii^{o6} and V^4_3 are often used as passing chords (in 3rd-progressions) between I and I^6 (Example 9-10). Notice that if $\hat{2}$ is in the soprano (9-10b), V^4_3 is not possible because all four tones should be present in inversions of V^7.

9-10



Neighbor Chords: V^6 or V^6_5 can be used as LN to I^5_3; V^4_3 and vii^{o6} as UN to I^5_3 as well as LN to I^6; V^4_2 as UN to I^6 (Example 9-11). If V^6_5 is used to support $\hat{2}$ (Example 9-11b), then the 3rd of the tonic triad will be doubled in an inner voice (a result of the proper resolution of the 7th of V^7).

9-11



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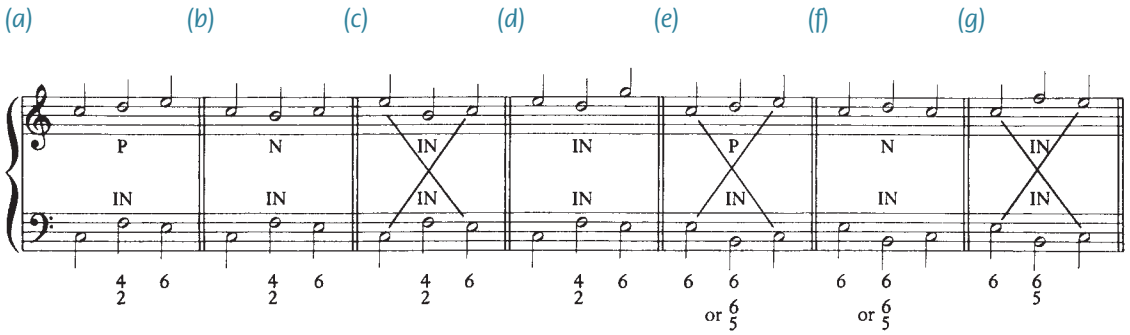
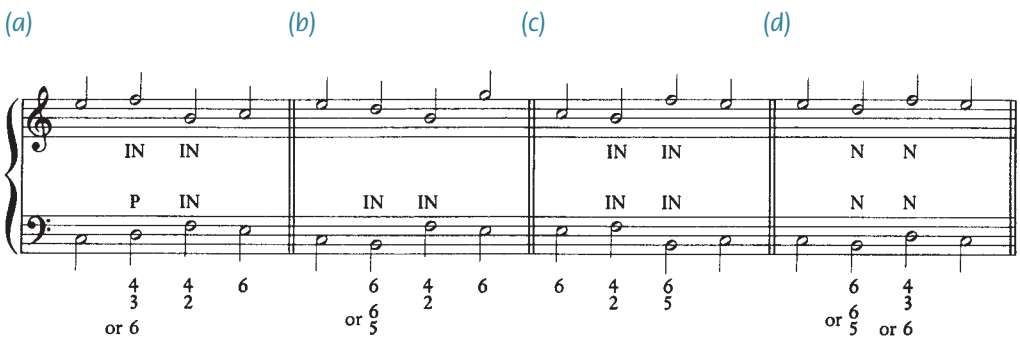
Incomplete-Neighbor Chords: V^6_5 and V^4_2 can be approached by leap as long as they resolve correctly. This produces the incomplete-neighbor figure in the bass (Example 9-12).

9-12



More Elaborate Figures: These involve leaps from one inversion of V^7 to another (Example 9-13). In Example 9-13a, the goal (I^6) of the passing tone D in the bass is delayed, not cancelled out, by the intervening upper neighbor F; this situation applies also to the first neighbor chord in Example 9-13d (review Unit 5, Section 11).

9-13



11. *Contrapuntal Cadences.* A root-position V or V^7 normally precedes the I at an authentic cadence, the leap of a 5th or 4th in the bass strongly articulating the phrase ending. A stepwise bass motion to I—from vii^{o6}, V^6, V^6_5, or V^4_3—produces a much weaker articulation. Very occasionally, as in bars 7–8 of Example 9-1, a contrapuntal cadence of this sort (contrapuntal because it is based on a stepwise progression) will end a phrase or a group of measures within a larger phrase. Such cadences are virtually never used at the end of a piece (or exercise).

12. *(I)* as a Neighboring or Passing Chord.* We have seen that $\hat{1}$, $\hat{3}$, and $\hat{5}$—normally the stable degrees of the scale—can become active tones if the context makes them dissonant (review Unit 2, Section 10). In a similar fashion, the triad

*In general, we use such parentheses to show that the enclosed chords are incidental to a governing harmony or harmonic progression.

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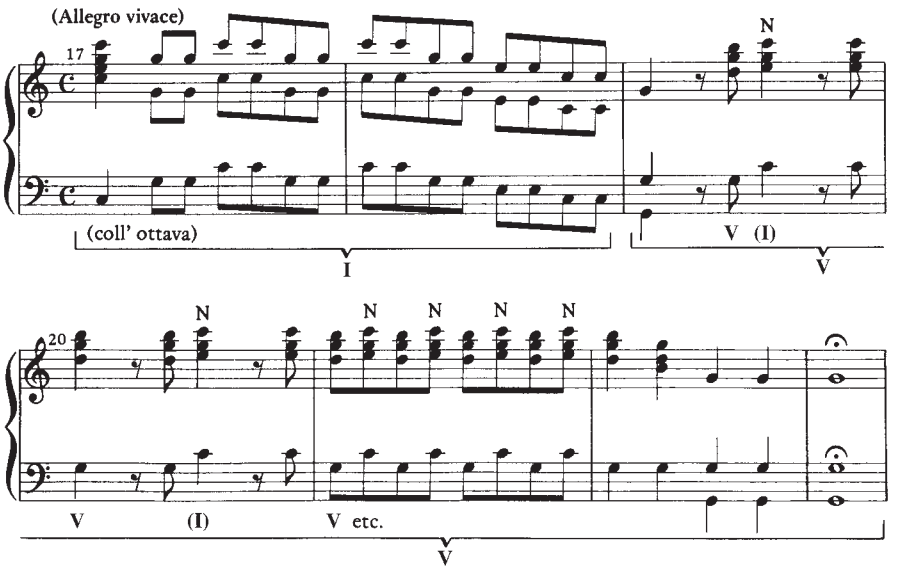
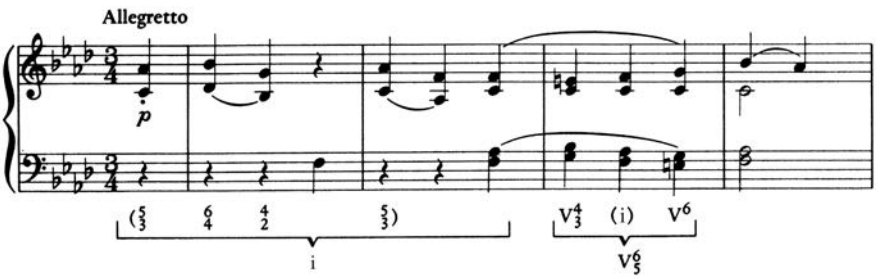
formed by these three tones—normally the most stable of all triads—can function as a passing or neighboring chord subordinate to another chord. Example 9-14 shows the end of the opening theme from the first movement of Mozart's "Jupiter" Symphony. It closes with a half cadence and reaches the goal, V, in bar 19. Because the dominant is clearly the goal, the (I) chords that appear in bars 19–21 do not demonstrate the typical tonic function of beginning or ending harmonic progressions; rather they extend and intensify dominant harmony. They support a neighboring tone in the soprano, so their specific meaning is that of neighboring chords. The (I) chords arise, therefore, as a result of neighboring motions in the upper voices (of an established V), a technique of harmonic expansion related to the idioms of third-species counterpoint.

9-14 *Mozart, "Jupiter" Symphony, K. 551, I*



Example 9-15 shows (i) in bar 3 as a passing chord between V^4_3 and V^6; notice the voice exchange between the outer voices that frames the progression. Compare the effect of the F-minor chord in bar 3 with the one in bar 4. Melodic and rhythmic factors make it impossible to hear the first one as a goal; the same factors make it impossible to hear the second as anything else.

9-15 *Beethoven, Piano Sonata, Op. 2/1, III*



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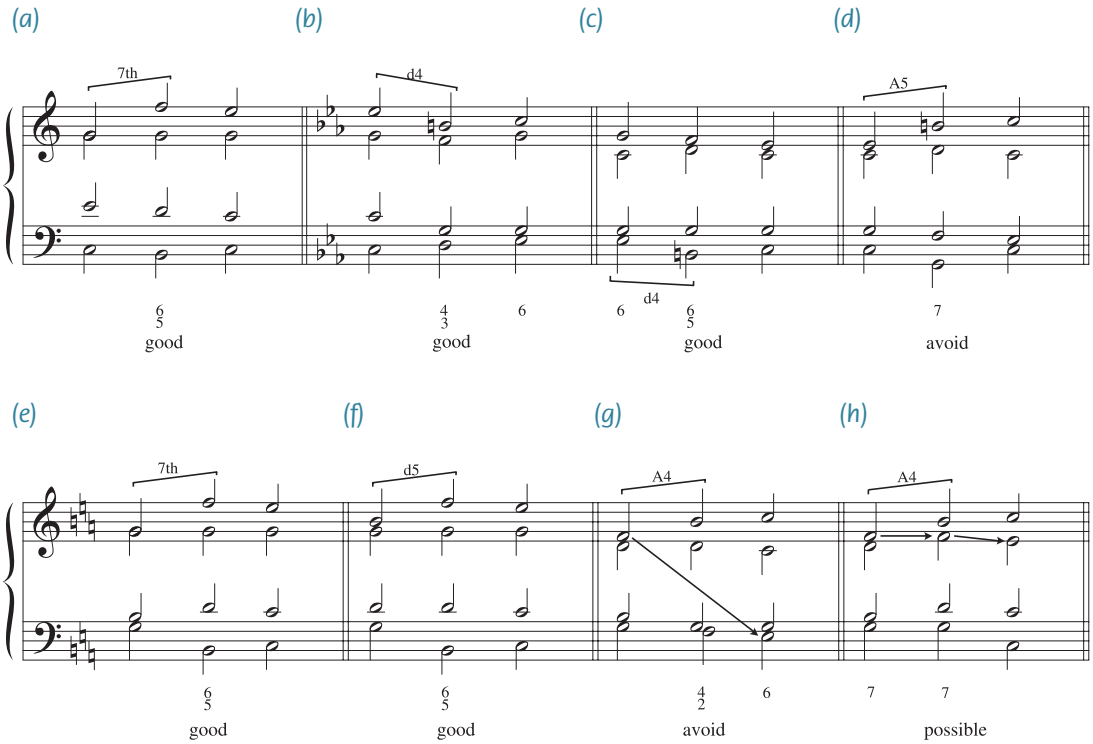
13. *Melodic Dissonance.* The use of V^7 and its inversions presents a number of possibilities for the effective use of melodic dissonance (Example 9-16). In using such dissonances, remember that changing direction after a leap—especially one that creates tension—helps produce a satisfactory melodic line (see Unit 6, Section 14).

9-16 *melodic dissonance*

Leaps from I to V^7: Example 9-16a shows the leap of an ascending 7th in the soprano. Note that resolving the 7th of V^7 produces a desirable change of direction after the leap. Examples 9-16b and c show the diminished 4th that occurs in minor with a downward leap from $\hat{3}$ to raised $\hat{7}$. The inversion of the diminished 4th—the augmented 5th—creates an unbalanced effect (9-16d); the tone following the leap does not change direction.

Leaps within V^7: Example 9-16e shows a leap from the root of V^7 to its 7th. This leap is best in the soprano voice, but possible in the bass. As in 9-16f, the leap of a diminished 5th will work well in bass or soprano as long as the 7th resolves. The augmented 4th (9-16g and h) is unsatisfactory because the tone following the leap does not change direction. Of the two progressions, 9-16h is better because the soprano F is taken over *in the same register* by the alto and resolves as expected.

Leaps in Inner Voices: At present such leaps should be avoided, with the exception of diminished 4ths between i and V in minor (Example 7-9c).

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POINTS FOR REVIEW

1. In moving from an inversion of V^7 to I (or I^6), $\hat{4}$ descends to $\hat{3}$; in inversions, the 7th resolves in the same way it does in root position. In moving to I, $\hat{5}$ is usually kept as a common tone.
2. Avoid similar motion to $\hat{3}$ doubled at the octave or unison.
3. V^6_5 resolves to I; its bass functions as a neighbor to $\hat{1}$, either complete (I-V^6_5-I) or incomplete (at present I^6-V^6_5-I; other possibilities are described in later units).
4. V^4_3 functions as a passing chord between I and I^6, or I^6 and I. A less frequent function is as a neighboring chord to I or I^6. When V^4_3 moves to I^6, $\hat{4}$ may ascend to $\hat{5}$; this most characteristically occurs in the progression I-V^4_3-I^6 with 10ths in the outer voices. When V^4_3 moves to I, $\hat{4}$ must resolve down to $\hat{3}$.
5. V^4_2 moves to I^6 to resolve $\hat{4}$. It functions as a *passing chord* between V and I^6 and as an *upper neighbor* to I^6.
6. Inversions of V^7 are almost always complete chords.
7. (I) can function as a passing or neighboring chord subordinate to V, V^7, or their inversions.
8. In moving from I to V^7 or within V^7, the following dissonant leaps in the bass or soprano are allowable: ascending minor 7th, diminished 4th, and diminished 5th.

EXERCISES

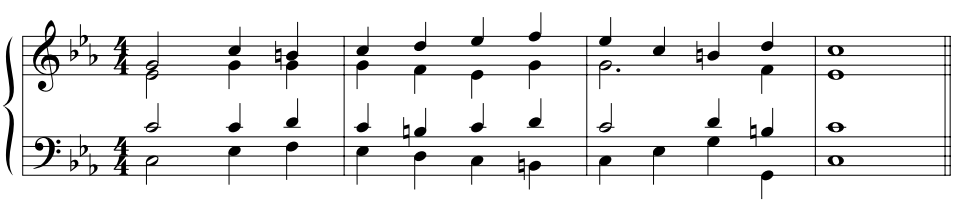
Note. With the chords available at present, you will sometimes find it impossible to avoid the frequent repetition of $\hat{5}$ in one of the inner voices. Don't worry about this; to try to achieve active inner voices often creates unnecessary problems in voice leading and may make it impossible to get a good soprano or bass line.

1. Preliminaries. Write short progressions (three or four chords each) showing characteristic uses of vii^{o6}, V^6, V^6_5, V^4_3, and V^4_2. Each progression should begin and end with some form of the tonic and should be written in a different major key and in its parallel minor.
2. Writing phrases. Write two phrases, one in major, the other in minor. In both, expand an initial tonic contrapuntally and end with an authentic cadence. The initial tonic prolongation should contain (in addition to I and I^6) V^6, vii^{o6}, or inversions of V^7. Remember to avoid a cadential effect in the middle of the phrase. (Review Unit 8, Section 12.)

   The phrases should be four measures long and in $\frac{4}{4}$ time. Use only half notes and quarter notes except, perhaps, for the final tonic chord, which could be a whole note.

   Try to write a soprano line that has a coherent shape and that conveys a sense of directed motion. One good possibility is to move up in the first part of the phrase and down in the approach to the cadence, as in the following sample solution.

Sample solution



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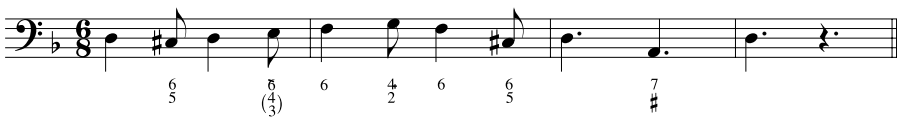
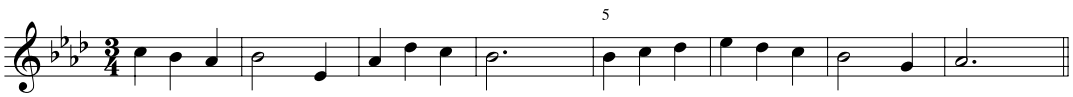
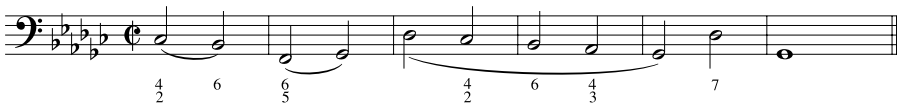
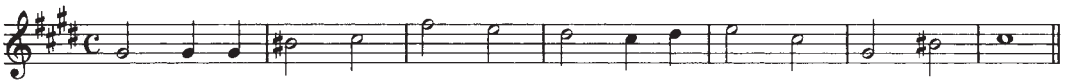
REALIZING FIGURED BASSES

1. Make sure you know what chords are demanded by the figures, and remember that the figures themselves represent *intervals above the bass.*
2. Remember that 4 means *raised* 4 and that 6 means *raised* 6. These figures will occur frequently in the minor mode.
3. Try to invent a soprano voice that is interesting and, if possible, beautiful—one with a good balance between stepwise motion and leaps.
4. Remember that your exercise should end with a *perfect authentic cadence*; this may require some planning one or two measures in advance.

3. Figured bass.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

4. Melody.

5. Figured bass.



6. Melody.

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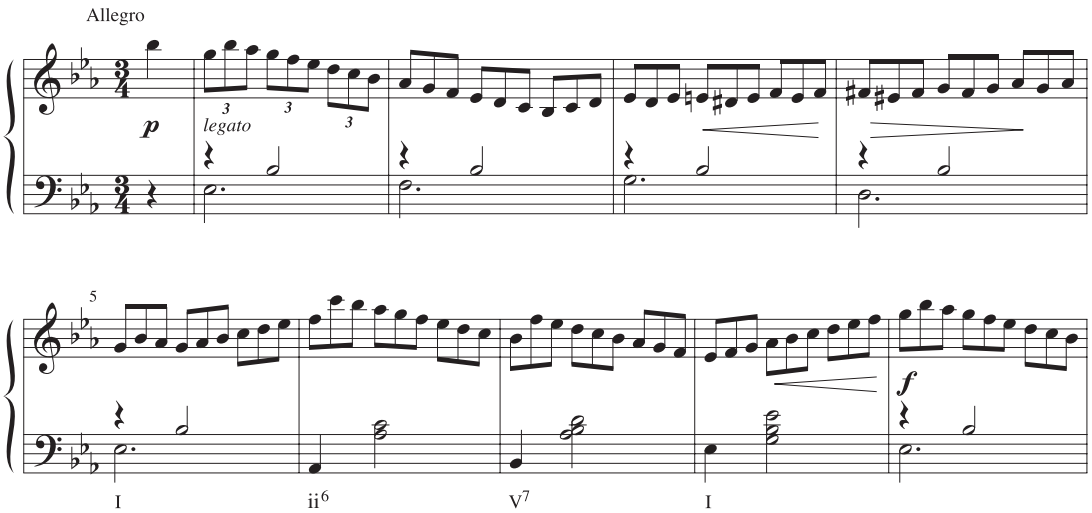
UNIT

10

Leading to V: IV, ii, and ii^6

10-1* *Schubert, Impromptu, D. 899*



* See Appendix II.

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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Intermediate Harmonies

1. Moving to the Dominant. Compare the opening phrase of Schubert's Impromptu in E♭ (Example 10-1) with the Schubert excerpt that begins Unit 9. Although they could hardly differ more in texture and in the way the piano is used, the two phrases are partly very similar in tonal design. Both begin with contrapuntal motion through an expanded tonic harmony; the first five bass tones are identical (compare bars 1–4 of Example 9-1 with bars 1–5 of Example 10-1). In one important respect, however, our present example differs from any of the previous ones. The harmony that fills bar 6 is a ii in $\frac{6}{3}$ position; its function is to lead from the extended tonic of bars 1–5 to the cadential dominant of bar 7 and to intensify the latter chord. Because it connects the initial I and the V of the basic I-V-I progression, we call such a chord an *intermediate harmony*. Intermediate harmonies occur very frequently and can assume great significance in the structure of tonal music.

Although a number of different chords can function as intermediate harmonies, IV, ii, and their derivatives form the most important possibilities. They are particularly well suited to *lead into and intensify dominant harmony*. Their roots lie between $\hat{1}$ and $\hat{5}$; both are active scalar elements, unlike $\hat{3}$, which has the stability of a tone belonging to tonic harmony. I-IV-V and I-ii-V, therefore, are more intense progressions than I-I⁶-V, whose bass arpeggiates the stable tones $\hat{1}$, $\hat{3}$, and $\hat{5}$. Furthermore, the three chords of these new progressions contain all the notes of the scale. This helps to express the key, as does the inevitable juxtaposition of $\hat{4}$ (in ii or IV) and $\hat{7}$ (in V), which, between them, produce the key-defining interval of the diminished 5th (Unit 2, Section 13).

In moving from IV or ii to V we can easily use a descending soprano line, so often appropriate at cadences. IV stands on the scale step just below V and leads into it by stepwise bass motion. The ii chord is the upper 5th of V and moves to it through the fundamental harmonic progression of the falling 5th (or rising 4th).

> *Note:* Remember that the function of these intermediate harmonies is to lead *toward* V, not away from it—thus, I-IV-V-I or I-ii-V-I but *not* I-V-IV-I or I-V-ii-I.

2. Cadential Uses. IV and ii can move either to a cadential V or to a noncadential V. In the former case they typically appear shortly before (often, as with the ii⁶ in the Schubert Impromptu, *immediately* before) the cadential V, so that they form part of the cadence. Using them makes available to us the expanded cadences of Example 10-2.

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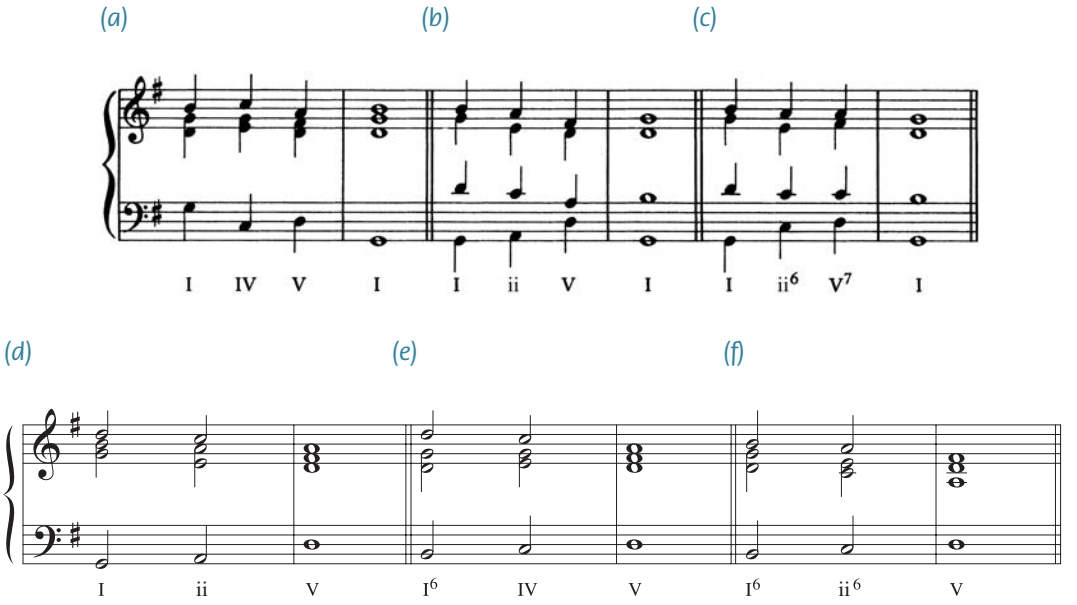
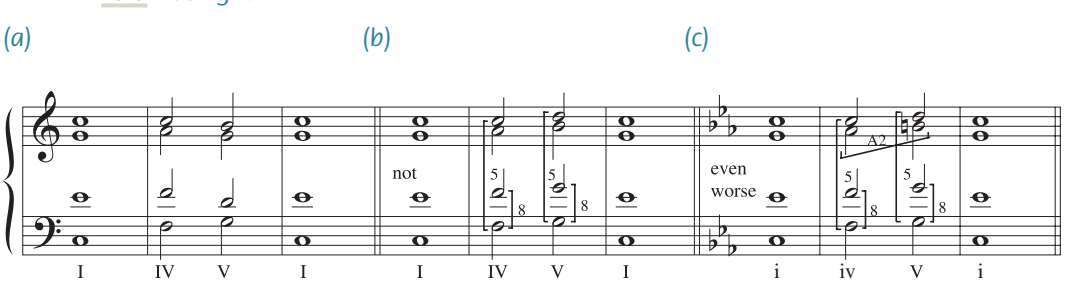
10-2 *cadences with IV, ii, and ii⁶*



3. *Subdominant Harmony (IV).* IV lies a 4th above or a 5th below the tonic; the progression I-IV is analogous to V-I (falling 5th), the I moving easily and naturally to IV. IV lies a step below V; there is a strong *melodic* connection between the two chord roots. Two triads with roots a 2nd apart share no common tones; in moving from IV to V, therefore, all four voices must proceed to a new tone. If you're not careful, you will soon find that the absence of common tones makes it dangerously easy to produce parallel 5ths and octaves; to avoid them, lead the upper voices in contrary motion to the bass, as in Example 10-3a. As with most $\frac{5}{3}$ chords, the root is usually the best tone to double.

10-3 *using IV*



Any of the three tones that belong to IV ($\hat{4}$, $\hat{6}$, and $\hat{1}$) can appear in the soprano. At cadences $\hat{4}$ (moving to $\hat{2}$ over dominant harmony) and $\hat{1}$ (moving to $\hat{7}$) are the most usable. The same melodic tones can occur when IV moves to a noncadential V. In addition—and very characteristically—IV supports $\hat{6}$ as upper neighbor to $\hat{5}$ in the progression I-IV-V. Example 10-4, from Schumann's song cycle *Frauenliebe und Leben,* shows this very frequent and important usage. The repetition emphasizes the neighboring figure.

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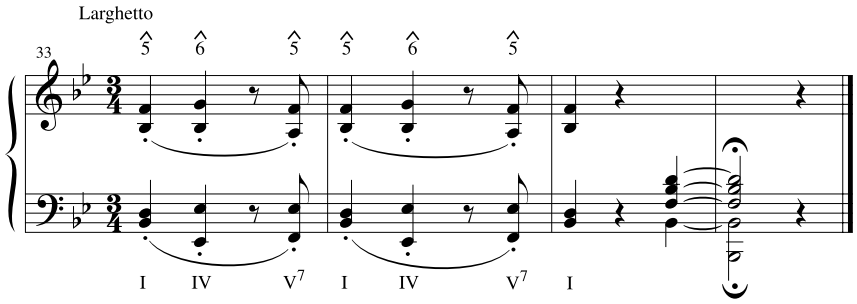
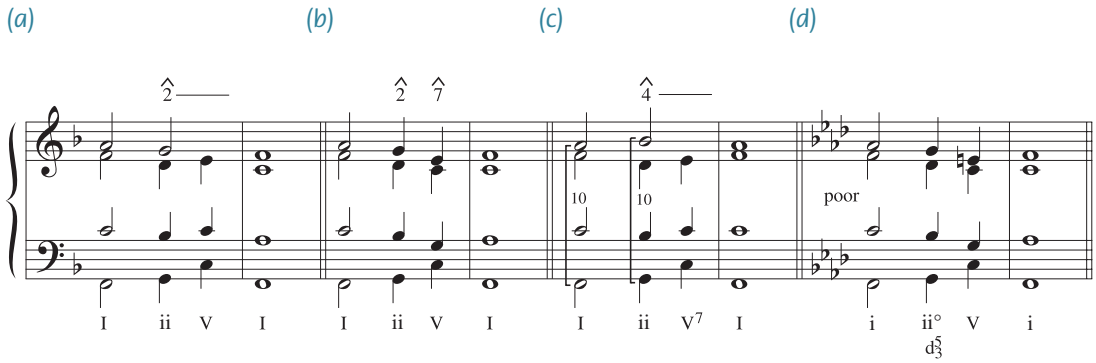
10-4 *Schumann, "Seit ich ihn gesehen"* *(from Frauenliebe und Leben, Op. 42)*



4. *Supertonic Harmony (ii).* The supertonic harmony, ii, lies a 5th above V and a step above I. Thus, its connection with V is a harmonic one (similar to V-I); its relation to I is melodic (similar to IV-V). I and ii, like IV and V, have no tones in common. One way to avoid bad parallels is illustrated in Examples 10-5a and b: lead the upper voices in contrary motion to the bass—just as with IV-V. Example 10-5c shows another possibility: parallel 10ths in the outer voices; the inner voices will move in contrary motion to the outer ones, and ii will have a doubled 3rd. The ii and V share $\hat{2}$ as a common tone. We can repeat the common tone in the same voice; the remaining two voices will normally move up by step (Example 10-5a). Very frequently, however, the upper voices will all descend (much as with IV-V). This allows $\hat{1}$ to be preceded by both its adjacent tones, $\hat{2}$ and $\hat{7}$ (Example 10-5b).

10-5 *using supertonic*



The ii chord tends to support $\hat{2}$ and $\hat{4}$ in the soprano more often than it supports $\hat{6}$. Thus, IV will harmonize $\hat{6}$ more frequently than ii will. At cadences, the typical possibilities are $\hat{2}$-$\hat{7}$, $\hat{2}$-$\hat{2}$, and $\hat{4}$-$\hat{2}$, all over ii-V. Unlike I-IV-V, the progression I-ii-V cannot harmonize the neighboring motion $\hat{5}$-$\hat{6}$-$\hat{5}$ because of the 5ths that would occur between I and ii.

In minor, the supertonic harmony is a diminished triad (ii°). Because of its unsatisfactory quality—at once harsh and thin— ii°$\frac{5}{3}$ in minor is usually avoided and the $\frac{6}{3}$ position used instead. However, circumstances sometimes justify the use of ii°$\frac{5}{3}$ in minor, as we will see in Section 13 of this unit (see also Example 17-9).

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In major, ii presents no problems of doubling. In minor, doubling the 3rd of $ii^{o}\frac{5}{3}$ improves its sonority because the 3rd is the only tone that does not form a dissonance with one of the other chord members. However, if the soprano contains $\hat{2}$, the doubled root is the only possibility.

5. ii⁶. The ii^6 leads very convincingly to V, occurring particularly often at cadences. As a cadential chord, it is especially characteristic of the music of Mozart, Haydn, and Beethoven. Besides its obvious relation to ii, ii^6 is also closely related to IV. The progression ii^6-V combines features of ii-V and IV-V. This progression embodies the root progressions by falling 5th of ii-V, though expressed less strongly, the root of ii not being in the bass. And the progression has the stepwise bass line of IV-V.

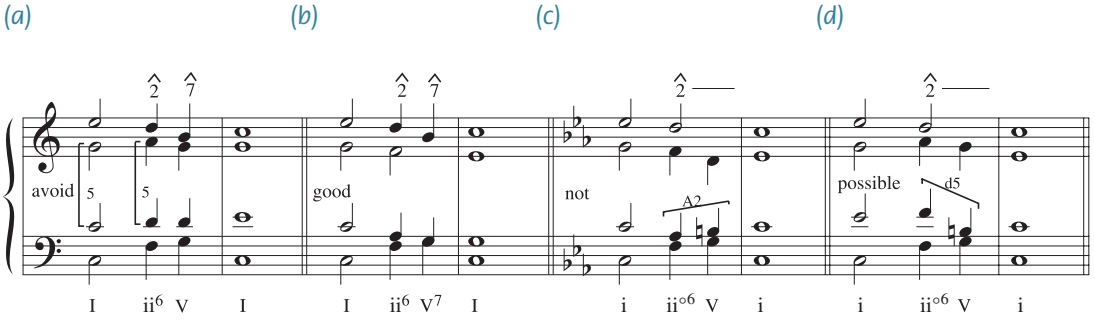
In minor, ii^{o6} can occur freely; as with vii^{o} in major, the diminished triad sounds much less harsh in $\frac{6}{3}$ position.

Moving from I to ii^6 is usually less problematic than moving to $ii\frac{5}{3}$. An exception would be when you have open position with $\hat{3}$ in the soprano; as Example 10-6a illustrates, it is easy to get parallel 5ths between the inner voices. Example 10-6b shows a way to avoid them.

In ii^6-V, the upper voices usually descend, $\hat{2}$ moving to $\hat{7}$. Very often the progression $\hat{2}$-$\hat{7}$ occurs in the soprano, as in Example 10-6b. Retaining $\hat{2}$ in the soprano is usually avoided, especially in minor where you are likely to get a melodic augmented 2nd (Example 10-6c); however, see Example 10-6d for a solution.

In moving from ii^{o6} (or ii^{o}) to V in minor, the diminished 5th or augmented 4th between $\hat{2}$ and $\hat{6}$ *cannot* resolve normally. $\hat{6}$ can (and usually should) descend to $\hat{5}$, but $\hat{2}$ cannot ascend to $\hat{3}$, for the V chord does not contain that tone. However, the harmonic force of the progression is sufficiently strong to offset the melodic irregularity.

10-6 *using ii⁶*



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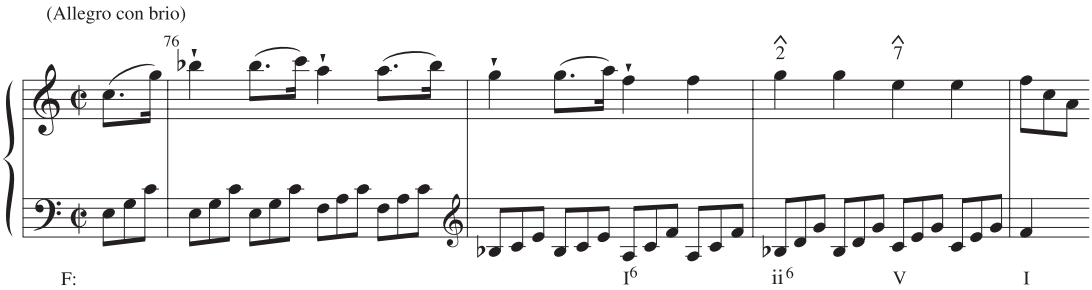
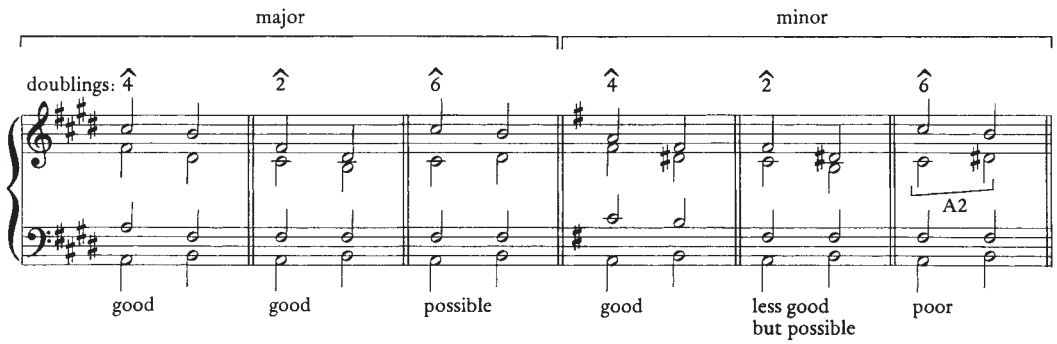
(e) Haydn, Piano Sonata, Hob. XVI/35, I

The bass of ii⁶ is very frequently doubled, both in major and—especially—in minor. In major, the doubling of $\hat{2}$ is also quite frequent. The doubling of $\hat{6}$ is less frequent—particularly in minor where it would probably produce a melodic augmented 2nd. Example 10-7 illustrates.

10-7 *doubling ii⁶*

(a) *(b)* *(c)* *(d)* *(e)* *(f)*



6. *Moving to V⁷.* IV, ii, and ii⁶ all lead very easily into V⁷. All contain $\hat{4}$; at the change of harmony, this tone becomes the 7th of V⁷. If we keep $\hat{4}$ in the same voice, first as a consonance, then as the dissonant 7th of V⁷, the dissonance is said to be *prepared* (retaining a tone represents a strict form of preparation; see Unit 7, Section 10, for another type, in which the dissonance enters by step). Preparing the dissonance allows it to enter in a smooth and unobtrusive manner; if the prepared 7th is metrically strong, it functions as a suspension. The good effect of preparing the 7th justifies irregular doubling, especially where the soprano moves away from $\hat{4}$ and cannot keep it as a common tone (Examples 10-8d and e).

Note in Example 10-8a how V⁷ eliminates the octaves that would occur with ii⁶-V. In 10-8b the incomplete V⁷ is the best way to avoid parallel 5ths between bass and alto.

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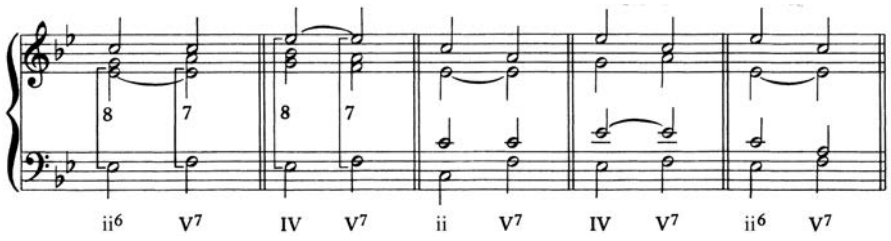
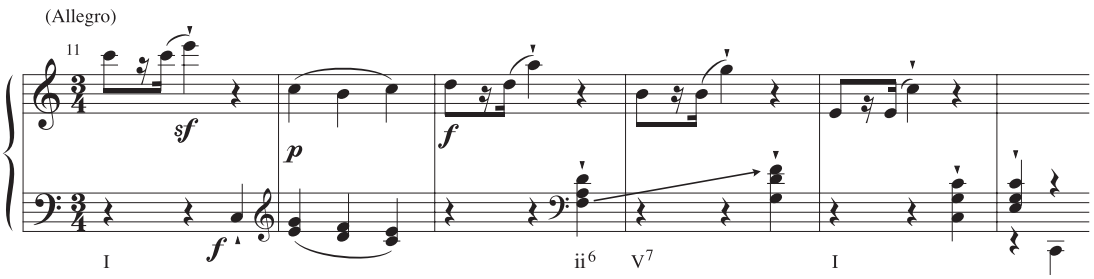
10-8 *approaching V⁷*

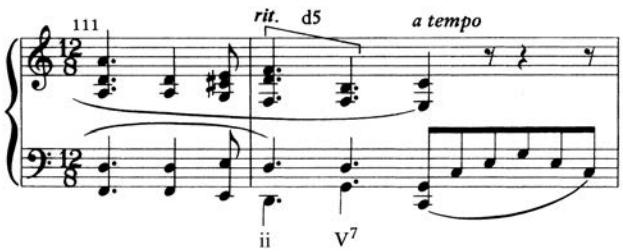
(a) *(b)* *(c)* *(d)* *(e)*

Especially in free, instrumental textures, but often in four-part vocal style as well, the 7th of V^7 can enter by leap (usually from below), the preparation occurring in another voice (Example 10-9).

10-9 *Beethoven, Bagatelle, Op. 33/2*



The melodic leap of a diminished 5th from $\hat{4}$ down to $\hat{7}$ (normally moving on to $\hat{1}$) can create a beautiful soprano for the progression from IV or $ii^{(6)}$ to V^7 (Example 10-10).

10-10 *Schumann, Fantasy, Op. 17, III*



7. I^6 leading to IV or ii^6. A most important function of I^6 is to lead into IV and ii^6, especially at cadences. Many of the musical examples in the present unit illustrate this usage: see Examples 10-6e, 10-12, 10-14, and 10-20. The stepwise bass progression ($\hat{3}$-$\hat{4}$) guarantees a smooth and natural connection between

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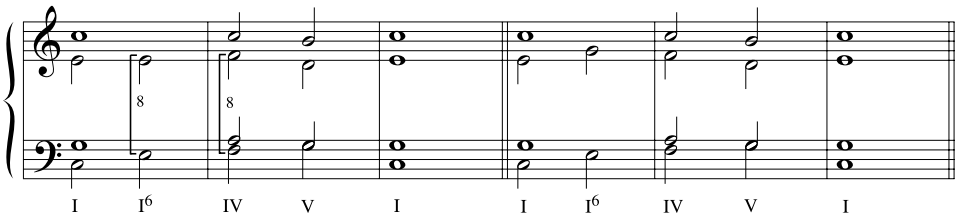
the I⁶, which represents tonic harmony, and the IV or ii⁶. *Be careful about parallel octaves when moving from I⁶ to IV!*

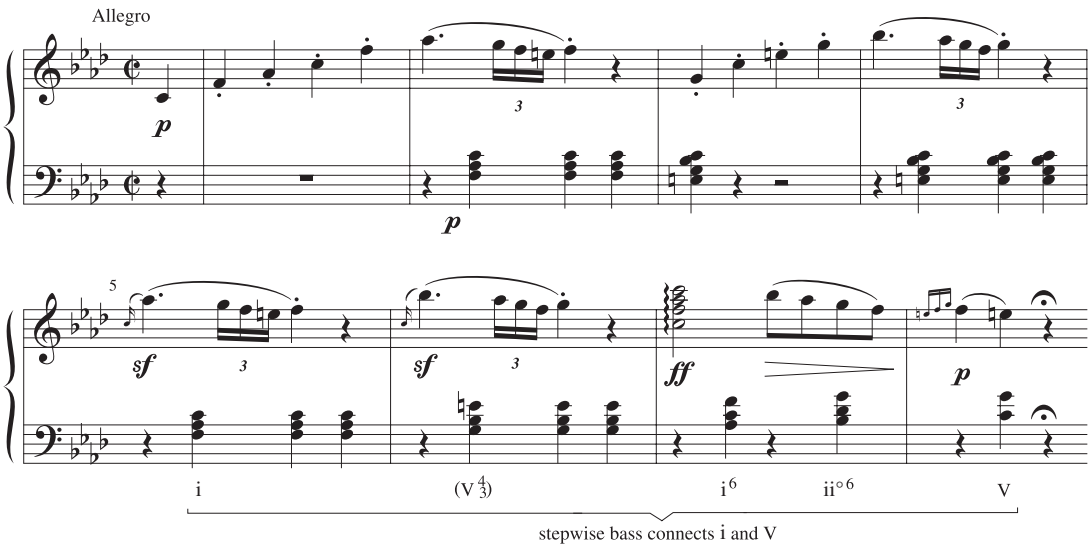
10-11 *I⁶ and IV*

(a) wrong *(b) correct*



8. Connecting I and V by Stepwise Bass. A I⁶ leading to IV or ii⁶ makes possible a beautiful way of moving from the initial tonic of a phrase to the cadential dominant: connecting these two chords by means of a bass rising by step from I to V. In Example 10-13, a passing V^4_3 provides the stepwise link between I and I⁶; vii°⁶ would also be possible. In this excerpt, note the accelerating rate of chord change, which intensifies the drive toward the dominant. You may also recall from Example 8-12 that the stepwise bass motion from I to I⁶ is called a 3rd-progression, because three notes—outlining the lower part of the tonic triad—spans a 3rd. In the Beethoven excerpt, the bass motion spans a 5th and is therefore referred to as a 5th-progression. Note that this motion completely delineates the F-minor tonic triad.

10-12 *Beethoven, Piano Sonata, Op. 2/1, I*



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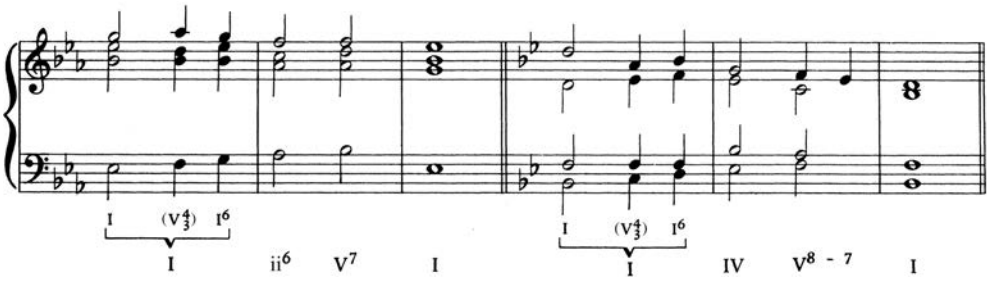
In general, ii^6 lends itself to this progression more readily than IV does; there are more good possibilities for the soprano and fewer voice-leading difficulties. But IV is also usable as is shown by Example 10-13b (and Example 11-1).

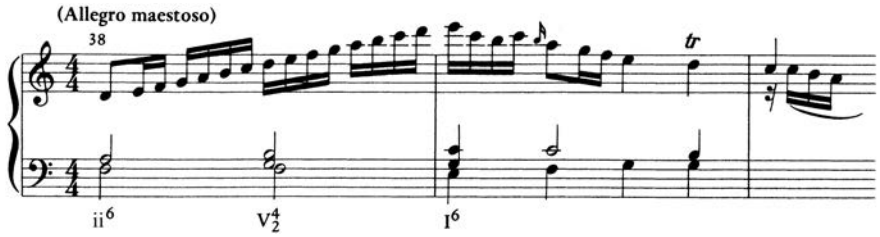
10-13 *The ii^6 and IV in stepwise bass*

(a) *(b)*



IV and ii in Contrapuntal Progressions

9. Moving to vii^{o6}, V^6, and to Inversions of V^7. We have learned that vii^{o6}, V^6, and the inversions of V^7 can function as melodic, contrapuntal equivalents to root-position V, and that these inverted chords are particularly useful in avoiding an unwanted cadential effect (review Unit 9, Section 5). IV, ii, and ii^6 can move to any of these chords. One of the most useful possibilities is IV or ii^6 moving over a stationary bass to V$^4_2$, as in Example 10-14.

10-14 *Mozart, Piano Sonata, K. 310, I*

Moving from ii to V$^6_5$ produces a particularly smooth bass line (Example 10-15a). Compare it to the much sharper effect of leading IV or ii^6 to V^6 or V$^6_5$ (Example 10-15b). These latter progressions necessarily result in a dissonant leap. Of the two possibilities (augmented 4th or diminished 5th), the diminished 5th is almost always better because the subsequent motion to $\hat{1}$ changes direction and produces a more flowing bass line.

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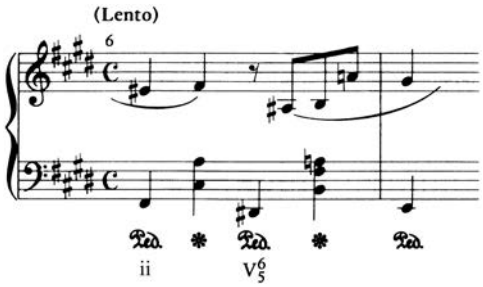
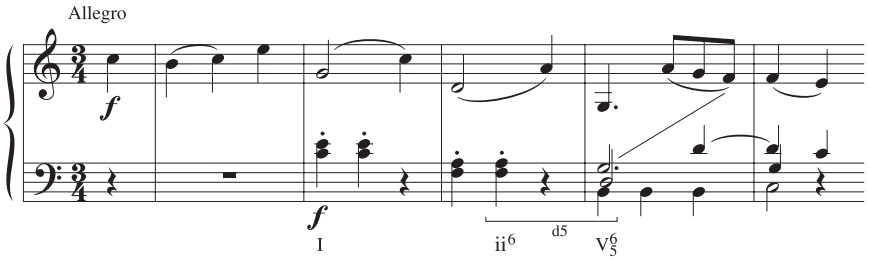
10-15

(a) Chopin, Nocturne, Op. 62/2



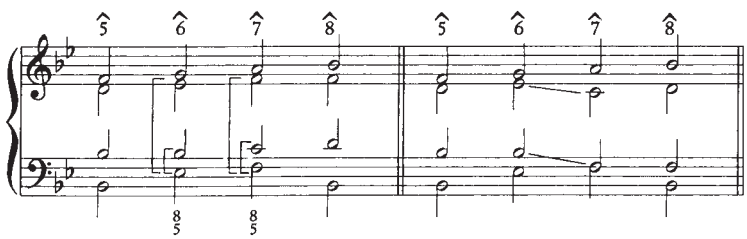
(b) Haydn, String Quartet, Op. 76/3, III



10. *The Melodic Progression $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$.* At the beginning or in the middle of a phrase (less often at the end), we might encounter a melodic progression ascending by step from $\hat{5}$ to $\hat{8}$. What might seem the most likely harmonization—I-IV-V-I—is difficult to achieve without parallels (Example 10-16a). One way of averting them is to use descending leaps in both the inner voices (10-16b), a solution that produces correct voice leading but not a smoothly flowing effect unless there is a passing tone (10-16c). In Example 10-16c, notice that the soprano is essentially an F-major scale with one tone repeated. This is an octave-progression; the F-major tonic—the underpinning of the phrase—is expressed as a linear, stepwise line spanning an octave.

10-16 $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ with I-IV-V-I

(a) *(b)*



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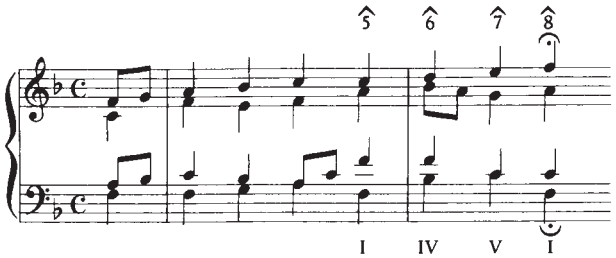
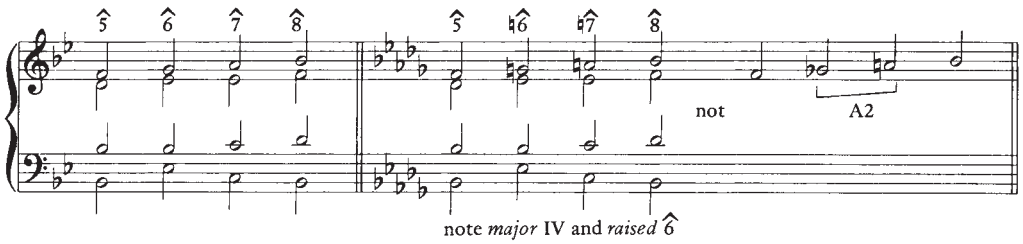
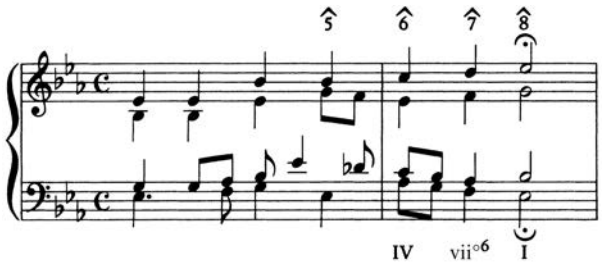
(c) Bach, Chorale 26

However, if we replace V by vii^{o6}, V^4_3, or V^4_2, all difficulties of voice leading disappear. And because the line $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ usually occurs in places where a strong cadence is not needed (or might even be inappropriate), the absence of a root-position V is frequently an advantage (Example 10-17). I^6 can replace I^5_3 at the beginning or end of this progression, possibly preceded by V^4_2 (10-17d).

10-17 *using vii^{o6}, V^4_3, or V^4_2*

(a) *(b) in minor*



(c) Bach, Chorale 212



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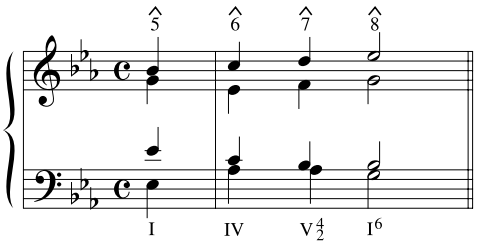
(d)

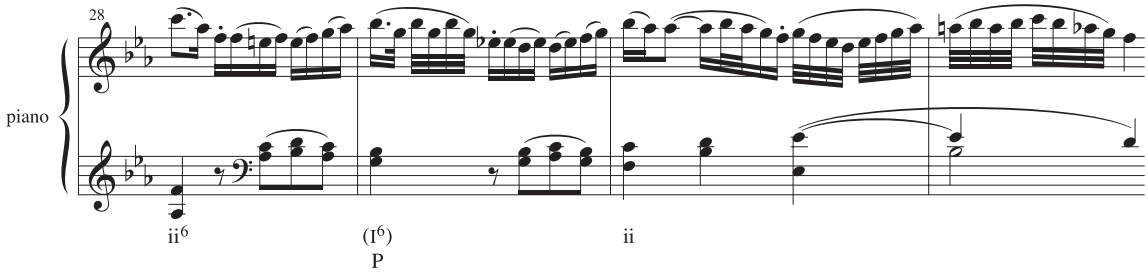


Expansions of ii and IV

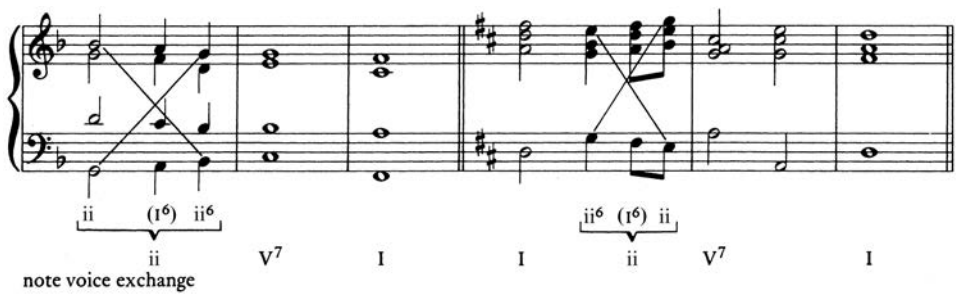
11. *Expanding Supertonic Harmony.* Supertonic harmony is often expanded by moving from ii to ii⁶, or the reverse, in a manner exactly analogous to the expansions of I and V by I⁶ and V⁶ discussed in Unit 8. A passing (I⁶) often appears between ii and ii⁶ as in the Mozart excerpt of Example 10-18a. Such a chord is a "tonic" in appearance only, not in function—hence the parentheses. It is neither the beginning nor the goal of a harmonic motion but, rather, a sonority built on a passing tone within the unfolding of the ii chord: Examples 10-18b and c show two possible applications to four-part writing. Note that such (I⁶) chords are usually in relatively weak rhythmic positions.

10-18 *ii expanded*

(a) Mozart, Piano Concerto, K. 271, II



(b) *(c)*



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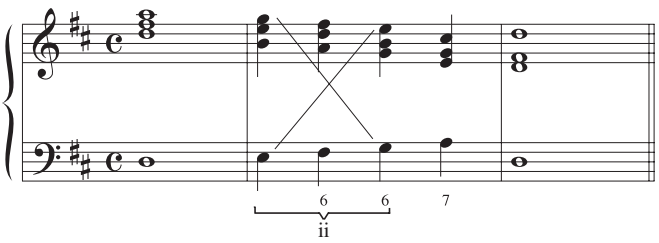
Passing from ii to ii^6 gives us another possibility for a rising stepwise bass from I to V (Example 10-19).

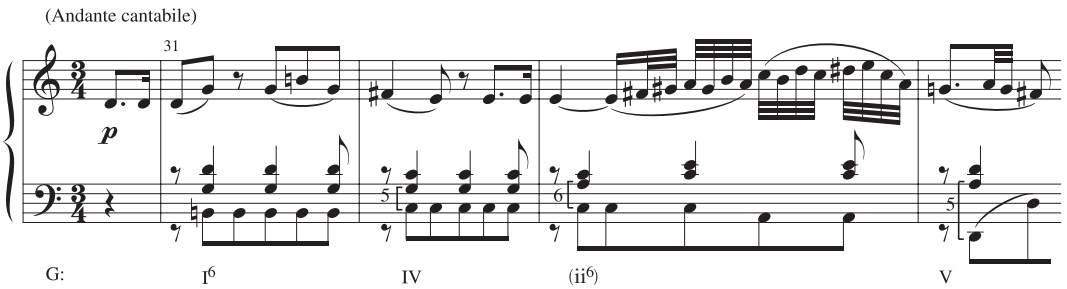
10-19 *rising bass with expanded ii*



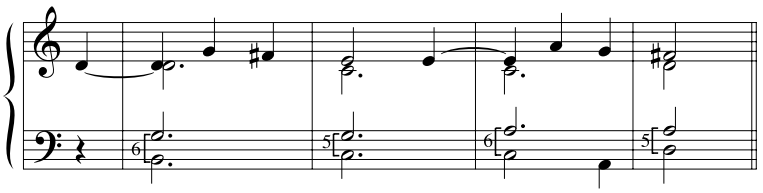
12. IV-ii^6: The 5-6 Technique. IV and ii share two common tones and are thus closely associated. The basis of this association is contrapuntal, exemplified in species counterpoint: a melodic motion above a sustained bass as discussed in Unit 4, Section 8. If we start with a IV chord and move its 5th up to a 6th (thus: F-A-C to F-A-D), we produce a ii chord in $\frac{6}{3}$ position, a procedure called the *5-6 technique (or 5-6 shift)*; this process occurs very often in composition and can fulfill a variety of functions (for example, breaking up parallel 5ths). In Example 10-20, a 5-6 progression transforms the IV into a ii^6; the ii^6 is then expanded by its own root position before moving on to V. It is not immediately apparent, but there would be 5ths between the two lowest parts in the progression from IV to V were it not for the change to ii^6. The parentheses in Example 10-20 indicate that this ii^6 chord is an extension, *derived contrapuntally*, of subdominant harmony.

10-20 *Mozart, String Quartet, K. 387, III*

(a)



(b) reduction



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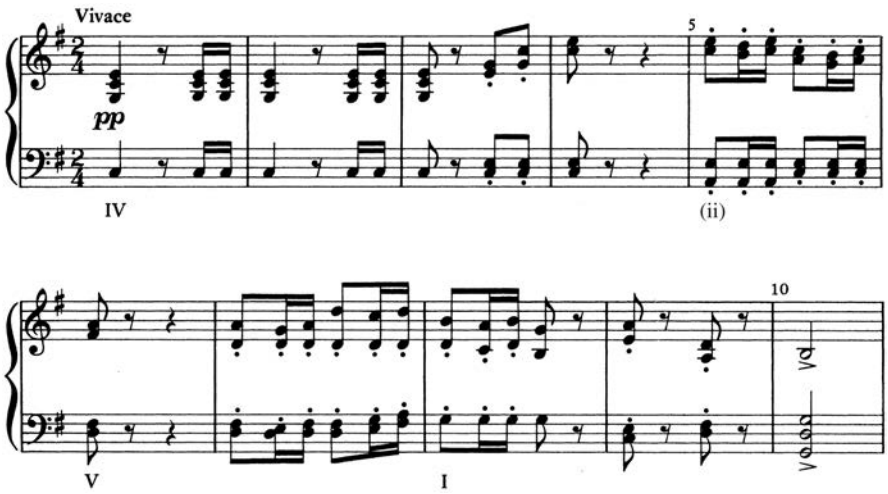
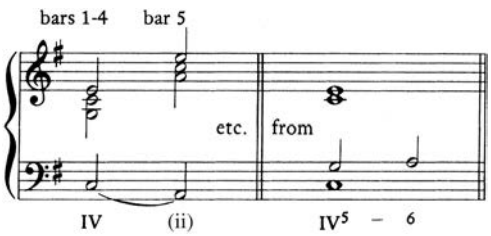
Sometimes the bass will leap down a 3rd at the same time that the 5th of IV moves up to a 6th; this produces the succession IV-ii. In Example 10-21, the basic progression is IV-V; the ii results from a 5-6 shift together with a leap in the bass to the root of ii. Notice in the preceding examples that IV and ii chords often appear in succession before the arrival of dominant harmony. Such "intermediate pairs" are quite common, another means (in addition to ii-ii⁶) of expanding intermediate harmony.

10-21 *Beethoven, Piano Concerto, Op. 58, III*

(a)

(b) reduction



13. *ii°$\frac{5}{3}$ in Minor.* We mentioned in Section 4 of this unit that the supertonic harmony seldom occurs in minor because of the harsh quality of the diminished triad in root position. If ii°$\frac{5}{3}$ follows ii°⁶ or iv and occurs without rhythmic stress, the chord loses much of its unpleasant quality, as in Example 10-22.

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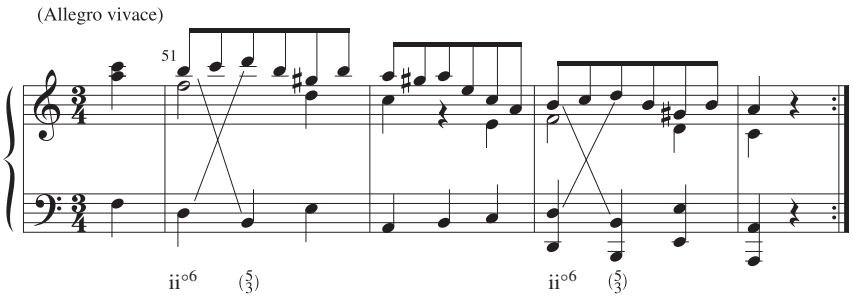
10-22 *Schubert, Piano Sonata, D. 279, Menuetto*



Harmonic Syntax; Rhythmic Implications

14. *Harmonic Syntax.* One way that music resembles language is that the order of things is crucial in both. "I went to the concert" is an English sentence, whereas "I concert went the to" is not. Similarly, I-vii^{o6}-I^{6}-ii^{6}-V^{7}-I (Example 10-23a) is a coherent progression of chords, whereas I-I^{6}-vii^{o6}-ii^{6}-I-V^{7} (Example 10-23b) is not, as you can hear if you play through the two examples. In the study of language, the word *syntax* is used to refer to the arrangement of words to form sentences; word order is a very important component of syntax. In studying music, we can use the term *harmonic syntax* to refer to the arrangement of chords to form progressions; the order of chords within these progressions is at least as important as the order of words in language.

The sentence "I went to the concert" reflects a coherent ordering of parts of speech: subject, verb, and object. Harmonic progressions in tonal music similarly exhibit a basic syntax. As we have seen, the fundamental progression is I-V-I, which we can symbolize as T-D-T (for tonic–dominant–tonic). With the addition of the intermediate IV, ii, and ii^{6} chords that precede V, the pattern becomes T-Int-D-T, which can shape small and large spans of music and be varied in an almost limitless variety of ways. In Example 10-23a, the vii^{o6} chord belongs to the dominant class, because it has a leading tone and leads to a position of the tonic: I-(vii^{o6})-I^{6} = T-D-T; it nonetheless functions contrapuntally within a broader expansion of I (indicated by the parentheses). On a slightly larger scale, the entire chord progression ultimately expresses I-ii^{6}-V^{7}-I (T-Int-D-T). This pattern, therefore, can help you to organize chords into broader classes and serve as a "litmus" test to determine whether a succession of chords conforms to proper harmonic syntax.

Other components of harmonic syntax are the position of chords within phrases, the preparation and resolution of dissonances, and the relation of chord progressions to melody and bass lines. At present, you should regard the following principles of harmonic syntax as rules:

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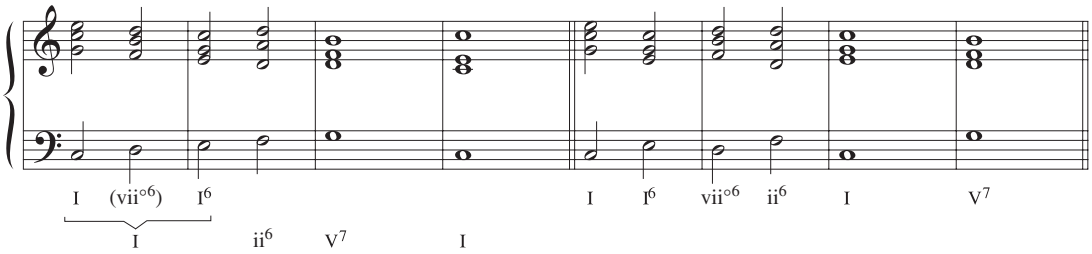
1. The bass tones of V^6, vii^{o6}, and the inversions of V^7 must continue by step to I or I^6 unless the bass tones occur within an arpeggiation that expands V or V^7.
2. Intermediate harmonies move to V, V^6, V^7 and its inversions, or vii^{o6}; they do not follow these chords.
3. Intermediate harmonies do not lead to I or I^6.

10-23 *harmonic syntax*

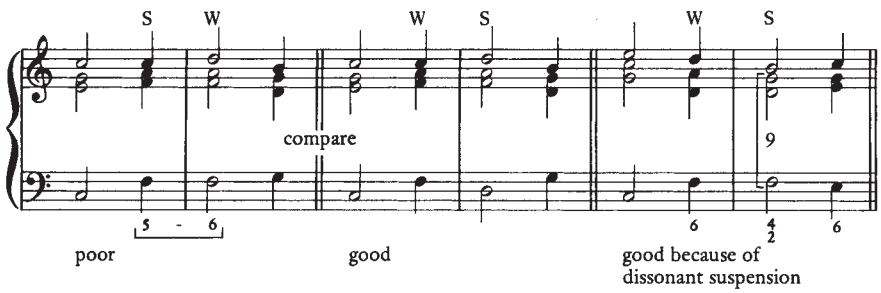
(a) good *(b) poor*



15. *More about Chord Progression and Rhythm.* We have already seen that repeating a chord from a weak to a strong beat can neutralize the metric accent (Unit 7, Section 17) and that changing the bass tone of an extended chord can have a similar effect (Unit 8, Section 13). Another procedure that can contradict the meter is repeating a *bass tone* from a weak to a strong beat while changing the chord it supports—for example, IV-ii^6. You must therefore avoid progressions like the one in Example 10-24a. In 10-24b, on the other hand, the weak–strong repetition of the bass tone $\hat{4}$ is good; the $\frac{4}{2}$ chord arises from a dissonant suspension (9th against the alto) in the bass. Suspensions, by definition, are held over or repeated from a weak to a strong beat; the dissonance produces enough contrast to give an accented quality to the downbeat despite the static bass.

10-24 *chord progression and rhythm*

(a) *(b)*



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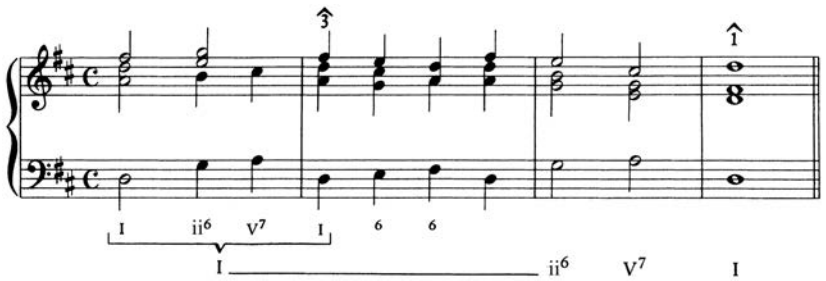
16. *Subordinate Progressions.* The chords in this unit will enable you to write more varied and interesting musical phrases and will enhance your understanding of the techniques found in the works of great composers. One new possibility is to extend the initial tonic of a phrase through IV, ii, or ii^6 moving to a noncadential V$^{(7)}$. In Example 10-25, the first four chords constitute a harmonic progression clearly subordinate to the larger I-ii^6-V^7-I (note how $\hat{3}$ in the soprano at the beginning of measure 2 prevents too strong a cadential effect); we therefore refer to the first succession of chords as a *subordinate harmonic progression* (Example 10-25; compare Example 10-14).

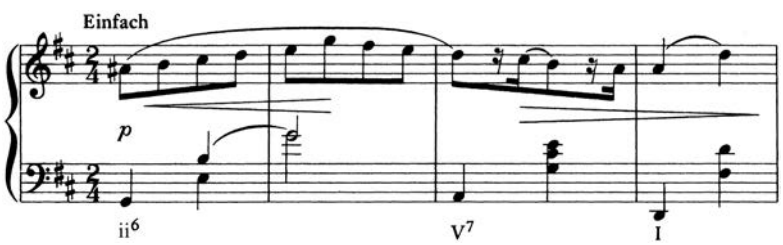
10-25 *subordinate progression*



If the subordinate progression threatens to produce an inappropriate cadential effect, I^6 can be used in place of the final I, or an inversion of V$^{(7)}$ or vii^{o6} in place of the V, or both; in particular, the succession V^4_2 -I^6 is frequently used by composers to "evade" a cadence (see again Example 10-14).

17. *Incomplete Progressions.* Sometimes IV, ii, or ii^6 will begin a phrase—or even, as in Example 10-26, a piece. Here the opening progression is ii^6-V^7-I. Because it lacks an initial tonic we call such a chord succession an *incomplete harmonic progression*. (Compare with Example 10-21, which also contains an incomplete progression.) Regardless of the actual metrics, phrases like that of Example 10-26 often produce the effect of beginning with an upbeat; the lack of a tonic can weaken the rhythmic stress of the first downbeat. Omitting an initial tonic is a device especially characteristic of Chopin, Schumann, Brahms, and other composers of the nineteenth century.

10-26 *Schumann, Davidsbündlertänze, Op. 6/5*



18. *Harmony and Phrase Rhythm.* Countless phrases of tonal music—especially those that begin pieces—open with an expansion of I that leads to an authentic or half cadence with IV, ii, or ii^6 before its dominant. Although this pattern

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would seem to impose a certain uniformity on the shape of the phrases that follow it, the interaction among harmony, melody, counterpoint, and meter (and other compositional elements as well) can lead to an almost limitless variety in emphasis and pacing. In Example 10-12, for example, the stepwise bass drives up to V. The cadential ii⁶ gets no special emphasis because it falls on a weak beat between the melodic climax on c³ (bar 7) and the goal dominant. In Example 10-1, on the other hand, the skip to the bass note of ii⁶ and the right hand's melodic high point combine to accentuate the ii⁶ even though it occupies the normally weak second bar of its four-bar group.

In Example 10-12, we called attention to the rhythmic acceleration that drives the phrase toward the semicadence at the end. This acceleration is characteristic of an important type of phrase identified by Arnold Schoenberg, to which he gave the name *sentence*. The Beethoven excerpt is a classic example of the simplest type of sentence: an eight-bar phrase divided into two, two, and four bars. The first two-bar group presents the phrase's basic idea, and the second group repeats it, usually with a change of harmony (collectively, the initial four bars are known as the *presentation*). The second four-bar group—known as the *continuation*—typically subdivides into shorter one-bar units, often containing only a fragment of the basic idea. These shorter, more continuous units, with their motivic fragmentation, partly produce the accelerating drive to the phrase's end. Sentences can end with an authentic cadence or, as in the Beethoven excerpt, a semicadence.

POINTS FOR REVIEW

1. The intermediate harmonies IV, ii, and ii⁶ lead from I to V—*not* from V to I. They can appear immediately before a cadential dominant, forming part of the cadence; they allow the 7th of V⁷ to be prepared as a common tone.
2. The progression ii-ii⁶ (or the reverse) represents an expansion of intermediate harmony. Other "intermediate pairs" are IV-ii and IV-ii⁶; this last progression results from a 5-6 shift over a sustained bass, a technique from species counterpoint. A passing (I⁶) sometimes connects ii-ii⁶ or ii⁶-ii.
3. In general, IV is better than ii or ii⁶ as support for $\hat{6}$.
4. Avoid ii°$^{5}_{3}$ in minor except on a weak beat following ii°⁶ or iv.
5. The best doubling of IV and ii (in major) is the root; of ii° in minor (if used), the 3rd; of ii⁶, the bass or root. *Warning:* Be careful of parallel octaves in ii⁶-V if the bass of ii⁶ is doubled.
6. IV, ii, and ii⁶ make possible a stepwise bass ascent from I to V. Linear progressions are stepwise lines that delineate the intervals of triads. In Example 10-12a, the bass spans a 5th.
7. As alternatives to root-position V or V⁷, the following are possible: vii°⁶ or V$^{4}_{3}$, especially with melodic line $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$; V$^{4}_{2}$; V⁶ or V$^{6}_{5}$.
8. Avoid the following types of progression, which can cause a contradiction of the meter: a weak–strong progression within the same chord, such as ii-ii⁶, and a weak–strong bass repetition, such as IV-ii⁶ (exception: IV or ii⁶ to V$^{4}_{2}$ is good).

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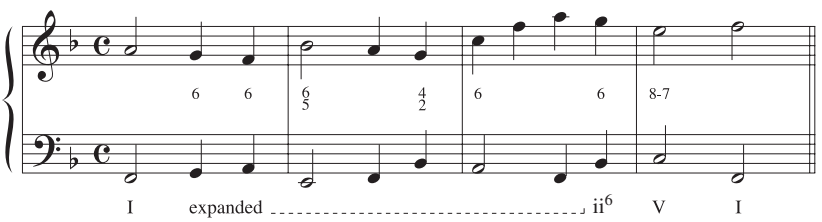
EXERCISES

Note. The expanded vocabulary introduced in this unit increases the number of choices you will have to make in writing your exercises, for *a given scale degree might belong to two chords of radically different function.* For example, $\hat{1}$ in the soprano could indicate I or IV; $\hat{2}$ in the bass could indicate ii or vii^{o6}. When working out the exercises, *be sure to incorporate cadential IV, ii, and ii*^{6} chords. When setting melodies, look for *idiomatic patterns* that suggest progressions including these chords. $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$, for example, usually implies I-IV-vii^{o6}-I or a variant thereof (perhaps using I^6 or V^4_3); in general, $\hat{6}$ tends to evoke subdominant harmony. $\hat{4}$-$\hat{2}$, $\hat{2}$-$\hat{4}$, $\hat{4}$-$\hat{3}$-$\hat{2}$, and $\hat{2}$-$\hat{3}$-$\hat{4}$ might well call for an expansion of supertonic harmony, perhaps with a voice exchange.

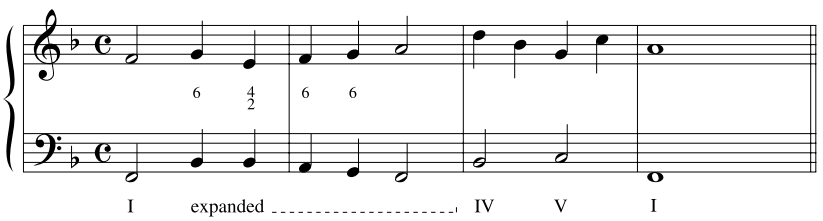
Rhythmic considerations will often determine whether one possibility is better or less good than another. Think of a soprano line $\hat{3}$-$\hat{2}$-$\hat{7}$-$\hat{1}$. You might harmonize it with I-V-V-I or with I-ii$^{(6)}$-V-I. If the $\hat{2}$-$\hat{7}$ is in a weak–strong relation, however, only the second possibility is good; repeating dominant harmony will contradict the meter. (Of course even if the $\hat{2}$-$\hat{7}$ is in a strong–weak relation, the ii might well be preferred simply because it defines the key more strongly.)

1. Writing phrases. Write two phrases, in either major or minor. In both, expand an initial tonic and end with an authentic cadence that includes an intermediate harmony IV, ii, or ii^6. In one of the phrases, the intermediate harmony should get more emphasis than the dominant that follows it (as in Example 10-1). In one phrase, expand the initial tonic contrapuntally, avoiding root-position V and using V^6, vii^{o6}, and the inversions of V^7. In the other, expand the prolonged initial tonic by means of a *subordinate harmonic progression* containing one of the intermediate harmonies. The phrases should be four measures long and in $\frac{4}{4}$ time. Use only half notes and quarter notes except for the final tonic chord, which should get either a half note (on beat three of the last measure) or a whole note. The sample solutions illustrate.

(a)



(b)



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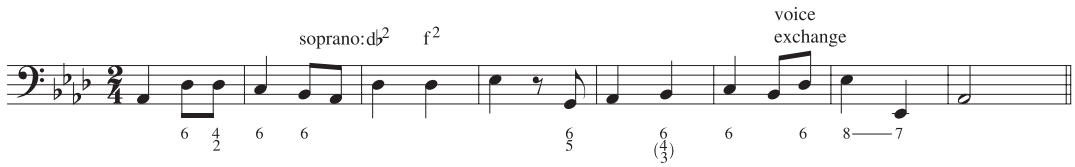
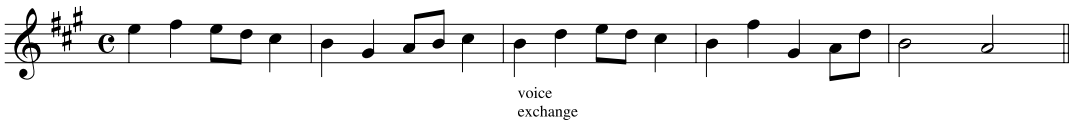
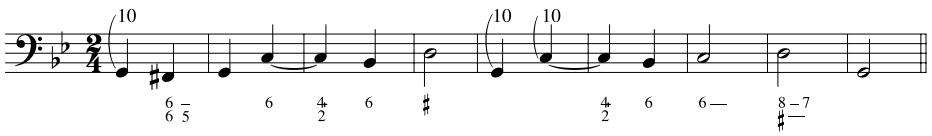
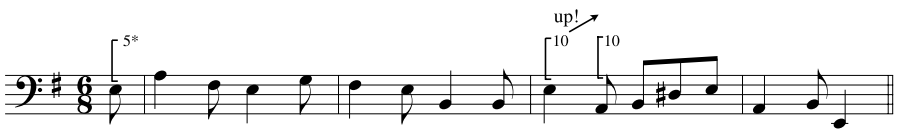
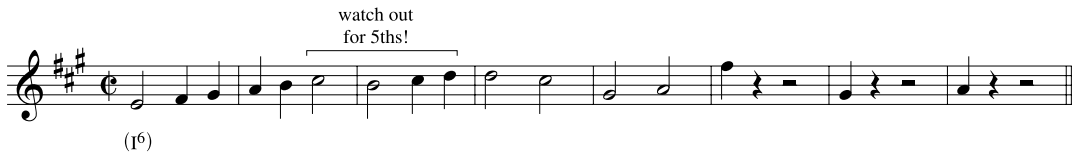
Note. The basses and melodies below are grouped as follows: Exercises 2, 3, and 4 use material covered in Sections 1–9 of this unit. Exercises 5 and 6 use material from the entire unit. However, you should read Sections 14 and 15 before doing any of them.

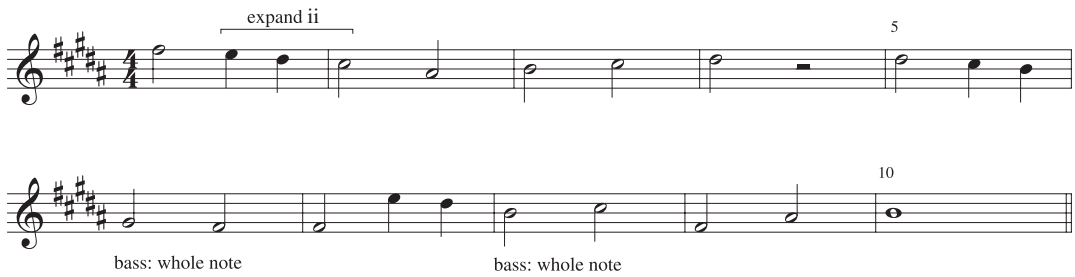
2. Figured bass.

3. Melody.

4. Figured bass.



5. Unfigured bass.

* Begin the soprano a compound 5th above the bass.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

6. Melody.

7. Melody.



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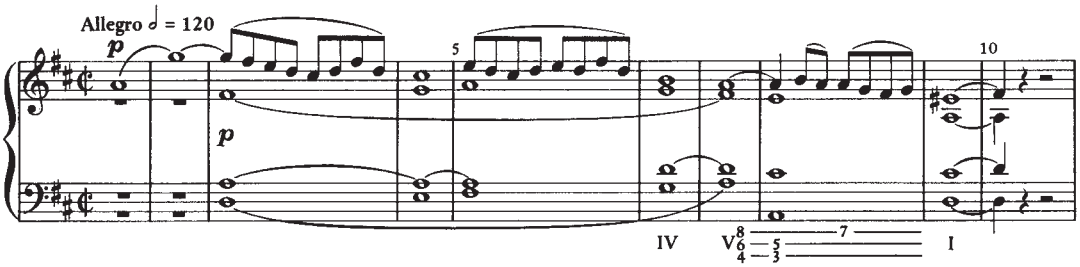
UNIT

11

The Cadential $\frac{6}{4}$

11-1 *Beethoven, String Quartet, Op. 18/3, I*



An Intensification of V

1. ***Nontonic Function.*** Example 11-1 begins with a bass that rises by step from I to V in a manner familiar to us from the preceding unit. When the bass arrives at the goal tone, A, in bar 7, however, the upper parts do not play a dominant chord. Instead they sound the tones D, F♯, and A, thus producing a $\frac{6}{4}$ chord above the bass. In the next bar, the bass leaps down an octave, and the upper voices move to a cadential dominant. The $\frac{6}{4}$ chord of bar 7 contains the same tones as the tonic triad; for this reason most harmony books label such chords "I^6_4." This label may be helpful for purposes of identification, but it contradicts the meaning and function of a $\frac{6}{4}$ chord used in this way. The chord does not act as an inversion of I^5_3; it serves neither to extend nor to substitute for the tonic (play the Beethoven with a D in the bass in bar 7 and hear how different the chord sounds). The purpose of this $\frac{6}{4}$ is to embellish and intensify the dominant; therefore, we shall use the notation $V^{6\text{-}5}_{4\text{-}3}$ or, when appropriate, a variant

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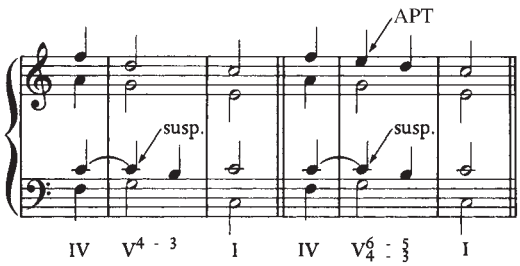
of it—in the Beethoven, $V^{8\text{-}7}_{6\text{-}5}$. This type of $\frac{6}{4}$ is frequently and appropriately termed the *cadential* $\frac{6}{4}$ because it most characteristically decorates the V chord at an authentic or half cadence. Although the cadential use is the most typical, a $\frac{6}{4}$ on the dominant is not restricted to cadences. In the minor mode, the *cadential* $\frac{6}{4}$ has a minor sound; nevertheless, $V^{6\text{-}5}_{4\text{-}3}$ is the correct label because the $\frac{6}{4}$ resolves into a major V, the underlying harmony of the progression.

2. ***Origin of the Cadential $\frac{6}{4}$.*** It is easiest to understand the cadential $\frac{6}{4}$ if you realize that it developed out of a very old voice-leading technique: delaying the leading tone at a cadence by means of a suspension. This suspension frequently decorates a cadential V, as in Example 11-2a; the suspension and its resolution form a 4th and a 3rd, and the intervallic progression is called a "4-3" suspension. If we delay the 5th of the V chord by first using a 6th, we obtain the complete $\frac{6}{4}$ chord moving to V in $\frac{5}{3}$ position (Example 11-2b). As you think about Example 11-2 and prepare for the next section, it will be useful to review the discussion of suspensions and accented passing tones (APTs) in Unit 5, Section 16.

11-2 *cadential $\frac{6}{4}$ derived from 4-3 suspension*

(a) *(b)*



3. ***Voice Leading.*** The stepwise descending resolution of a 4th to a 3rd forms the basis for the correct treatment of the cadential $\frac{6}{4}$. Stepwise descent is the normal way to resolve suspensions and other accented dissonances, and the 4th is dissonant when it sounds between the bass and one of the upper parts. Because it contains the 4th in this position, the $\frac{6}{4}$ functions as a dissonant chord.

As we noted, the 4th will most often enter as a suspension—held over or repeated from the preceding chord. When this is not possible (for example, coming from ii or ii^6), the 4th can enter by stepwise descent as an accented passing tone. In either case, it will resolve by step to the 3rd of dominant harmony (Example 11-3). In simple textures, the 4th will not usually enter by leap. And even in more complex instrumental styles, the 4th normally enters as a common tone or by stepwise motion. Sometimes the stepwise introduction of the 4th is masked by figuration, as in Example 11-3c.

The 6th of the cadential $\frac{6}{4}$ is consonant, so it does not require careful preparation. Most of the time, however, it will function as a consonant accented passing tone. Notice also that following an intermediate IV, the $\frac{6}{4}$ chord results from the combination of a suspension and an accented passing tone.

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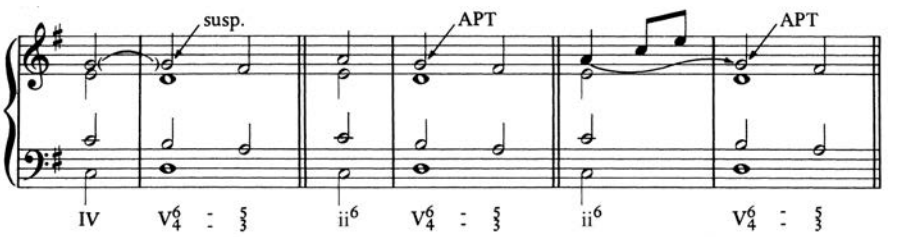
11-3 *voice leading and the cadential* $\frac{6}{4}$

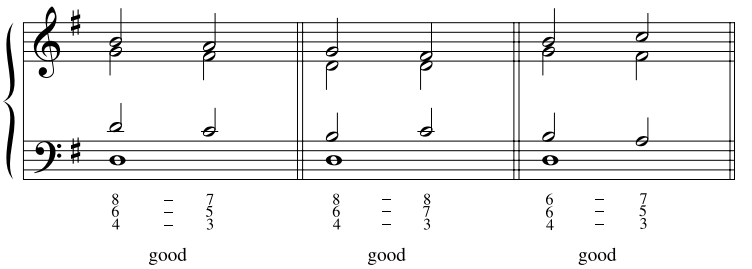
(a) *(b)* *(c)*



4. *Moving to V^7.* The cadential $\frac{6}{4}$ moves easily to V^7. Usually all the upper voices descend by step, thus: $\begin{matrix}8\text{-}7\\6\text{-}5\\4\text{-}3\end{matrix}$ (Example 11-4a). Less frequently, the 6th above the bass (especially when in an inner voice) can move up to the 7th (Example 11-4b). With the less-usual doubled 6th, still another possibility arises: $\begin{matrix}6\text{-}7\\6\text{-}5\\4\text{-}3\end{matrix}$ (Example 11-4c).

11-4 V $\begin{matrix}8\text{-}7\\6\text{-}5\\4\text{-}3\end{matrix}$

(a) *(b)* *(c)*



5. *Doubling.* The bass is the best tone to double, for it is the root of the prevailing harmony—V—to which the $\frac{6}{4}$ resolves. If this doubling is impracticable—as is the case in Example 11-5b, where moving from ii^6 in open position threatens parallel 5ths—the 6th should be doubled. The 4th is not doubled except in very free or complex textures.

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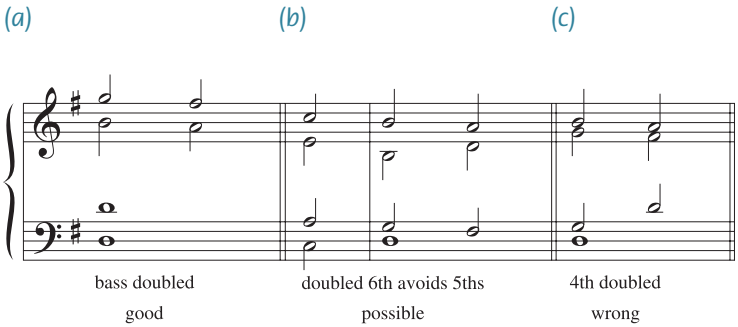
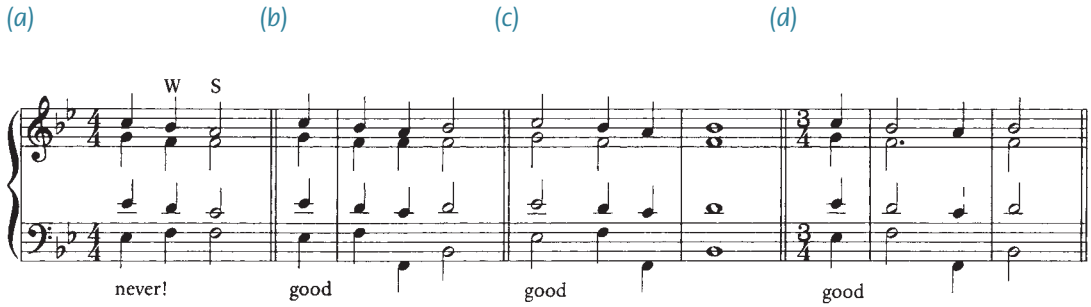
11-5 $\frac{6}{4}$ *doublings*



6. Rhythm. Because it grows out of a suspension or an accented passing tone (which, by definition, is metrically accented) and because it resolves over a stationary bass, the cadential $\frac{6}{4}$ *must* appear in a metrically strong position; no weak-to-strong bass repetitions are permitted. If the chords change every beat or so, the $\frac{6}{4}$ will appear on a strong beat and will resolve on the following weak beat (duple meter) or on one of the two following weak ones (triple meter). In triple time, the second beat is sometimes stronger than the third; therefore, a resolution from second to third beat can be a possibility. If the $\frac{6}{4}$ resolves within a divided beat, the $\frac{6}{4}$ will appear on the strong part of the beat and its resolution on a weaker part. Sometimes chord changes occur more slowly than one per beat. In such cases, the $\frac{6}{4}$ will appear on a strong beat and its resolution either on a weak or another strong one (for example, from the first to the third quarter of $\frac{4}{4}$ time). Example 11-6 illustrates the metrical relation between the cadential $\frac{6}{4}$ and its resolution. Note that the strong-to-weak rhythm can be underscored by the leap of a *descending* octave in the bass.

11-6 *rhythmic position of cadential* $\frac{6}{4}$

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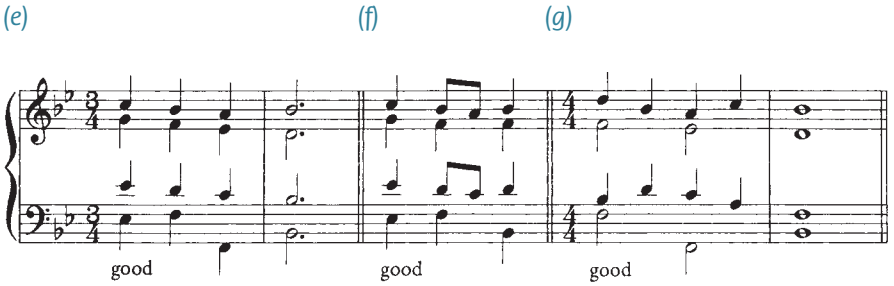
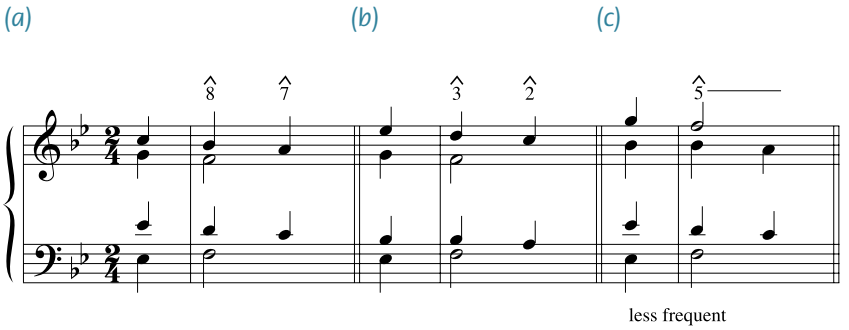

In many musical phrases (for example, the Beethoven excerpt that begins this unit), strong and weak *measures* alternate, creating a metrical pattern similar to strong and weak beats within the measure. In the Beethoven, observe that the $\frac{6}{4}$ falls on a strong measure and its resolution on a weak one; also note how the descending bass octave emphasizes the rhythm. Cadential $\frac{6}{4}$ chords that last a whole bar fall, in principle, on a strong or accented bar.

7. *Cadences.* As its name indicates, the cadential $\frac{6}{4}$ very often forms part of an authentic cadence or a semicadence, usually supporting an accented $\hat{3}$ or $\hat{1}$. The "good" examples of 11-6, as well as Examples 11-8 and 11-9, show some possibilities for the authentic cadence; for semicadences see Example 11-7.

11-7 *semicadences*



On occasion, cadential $\frac{6}{4}$ chords can be prolonged over a long period of time. Long duration does not alter the meaning or function of the chord; it is still dependent on the dominant to which it resolves. Extending the $\frac{6}{4}$ can generate a great deal of tension, as in Example 11-8, where the musical tension relates directly to Shakespeare's text.

8. *Stepwise Melodic Lines.* An important use of the cadential $\frac{6}{4}$ is the stepwise melodic line it permits when IV or ii moves to V with $\hat{4}$-$\hat{2}$ or $\hat{2}$-$\hat{7}$ in the soprano. The two excerpts of Example 11-9—one of them from the same Haydn song as Example 11-8—illustrate this. The one necessary condition is that $\hat{3}$ and $\hat{1}$—the passing tones belonging to the $\frac{6}{4}$—must fall on an accented beat or part of the beat.

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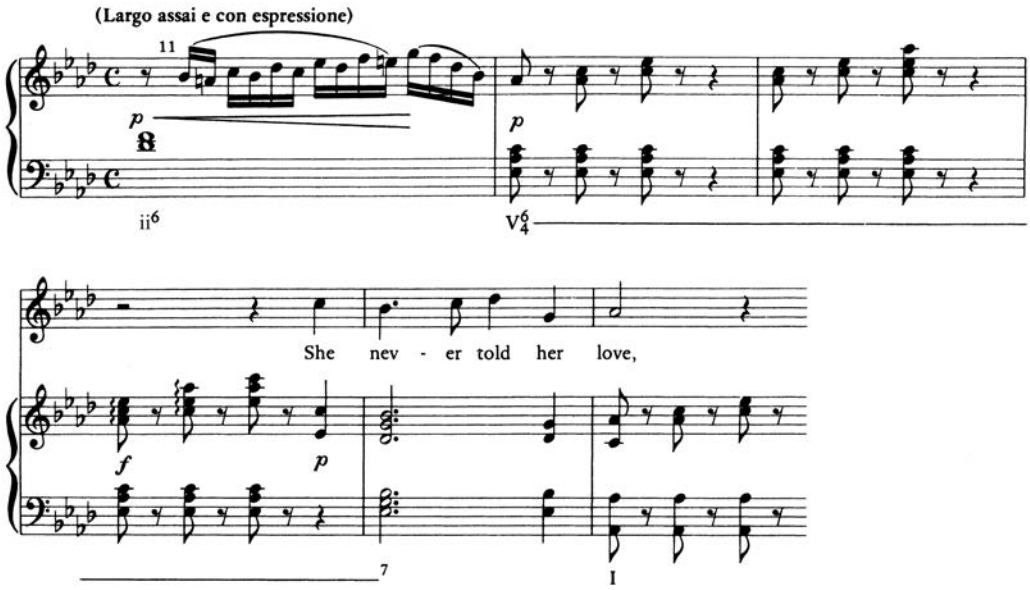
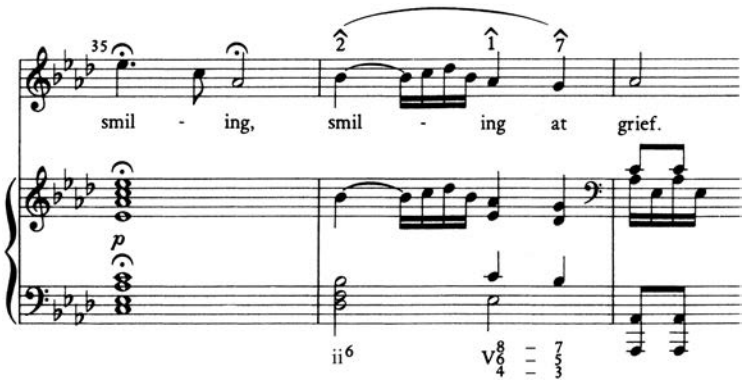
11-8 Haydn, "She Never Told Her Love"

11-9

(a) Haydn

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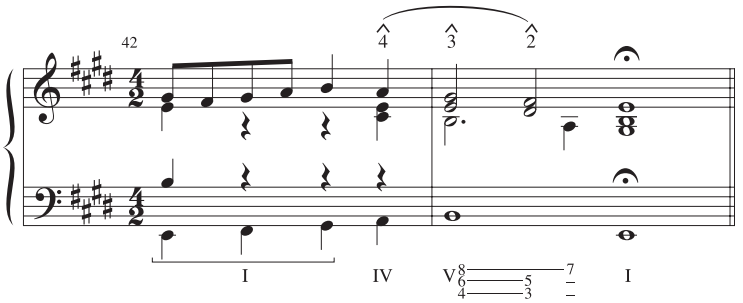
(b) Bach, Well-Tempered Clavier II, Fugue 9



9. *Cadential $\frac{6}{4}$: Functions of $\hat{1}$ and $\hat{7}$, $\hat{3}$ and $\hat{2}$.* Using the cadential $\frac{6}{4}$ creates a significant (though temporary) reversal in the melodic functions of $\hat{1}$ and $\hat{7}$. $\hat{1}$ is, of course, the most stable melodic tone and normally serves as a goal of motion; $\hat{7}$ is an unstable tone with a marked tendency to move to $\hat{1}$. In the cadential $\frac{6}{4}$, however, $\hat{1}$ functions as a dissonance (4th). It cannot serve as a goal of motion; instead, it must resolve to $\hat{7}$ by stepwise descent. In this situation, therefore, $\hat{7}$ becomes a temporary goal; $\hat{1}$ loses its stability and becomes an active tone dependent on $\hat{7}$. In the cadential $\frac{6}{4}$, $\hat{3}$ (6th above the bass) also becomes more unstable than $\hat{2}$ (5th of V) to which it normally descends; the relationship between these tones resembles that between $\hat{1}$ and $\hat{7}$ and results because both $\hat{3}$ and $\hat{1}$ embellish V either as suspensions or as accented passing tones. After the resolution of the cadential $\frac{6}{4}$ to V, $\hat{7}$ and $\hat{2}$ retain their tendency to move on to $\hat{1}$; they function as temporary, not final, goals.

10. *Harmonic Syntax and the Cadential $\frac{6}{4}$.* The cadential $\frac{6}{4}$ intensifies dominant harmony by delaying the appearance of its 3rd and 5th ($\hat{7}$ and $\hat{2}$). This function is contradicted if a dominant chord (or vii^{o6}, which closely resembles a dominant) precedes the $\frac{6}{4}$. In particular, the intense effect of delaying the leading tone is weakened if the $\frac{6}{4}$ follows a chord that contains $\hat{7}$. For this reason we can formulate an additional principle of harmonic syntax.

> *Note:* Approach the cadential $\frac{6}{4}$ only from an intermediate harmony or from a tonic chord, but *not* from any chord of dominant function (V, V^6, V^7 and its inversions, or vii^{o6}).

11. *Noncadential Uses.* In Example 11-10, $\frac{6}{4}$ chords embellish noncadential dominants (bars 95 and 97). With regard to rhythm and voice leading, these chords function in the same way as cadential $\frac{6}{4}$'s.

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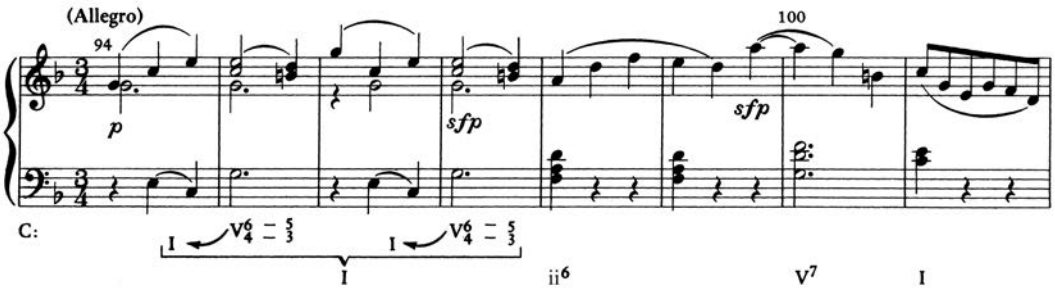
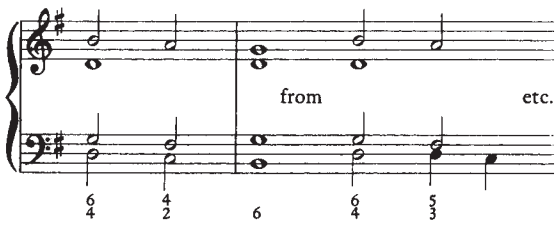
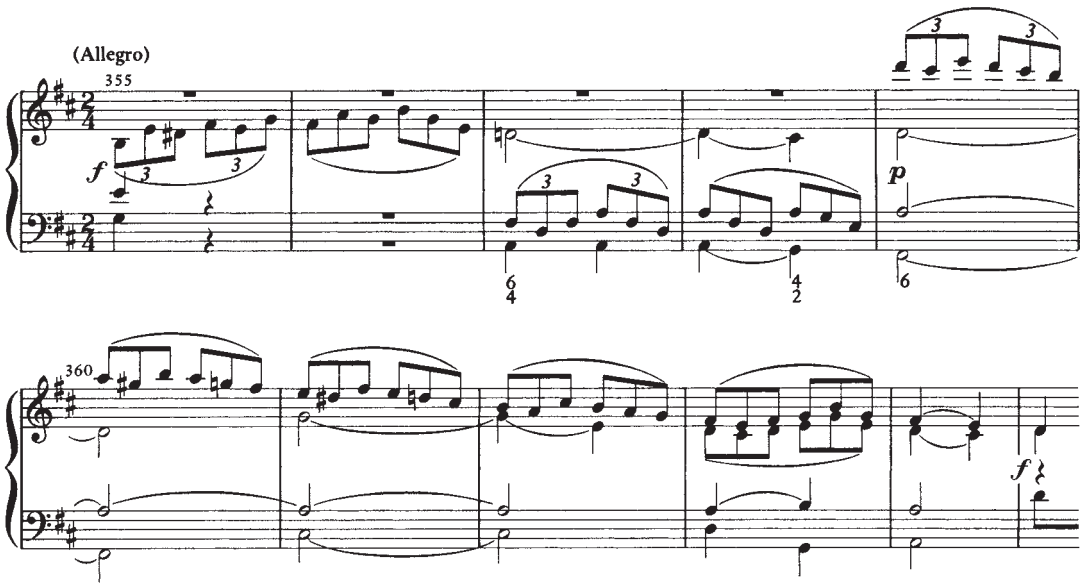
11-10 *Mozart, Piano Sonata, K. 332, I*

If a cadential effect is not wanted, the $\frac{6}{4}$ can move to a $\frac{4}{2}$ (Example 11-11). A $\frac{6}{4}$ moving to a $\frac{4}{2}$ occurs in the last movement of Mozart's String Quartet, K. 499 (Example 11-12). Here Mozart avoids a formal cadence at the end of the phrase and continues the motion into the next group of measures.

11-11 *avoiding cadence*



11-12 *Mozart, String Quartet, K. 499, IV*

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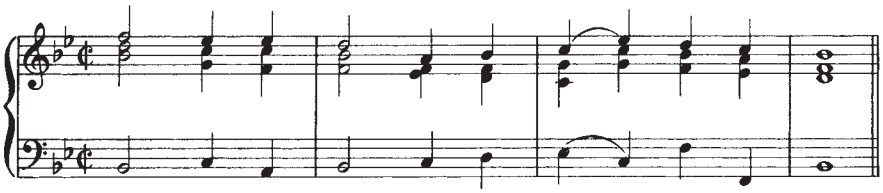
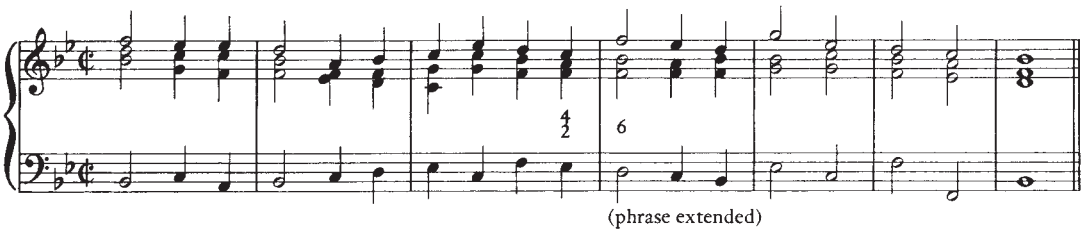
12. *Harmony and Phrase Rhythm.* Example 11-12 illustrates the technique of joining two phrases together to form a larger unit, by suppressing the first cadence. You can use a similar procedure to extend the duration of a single phrase, as in Example 11-13.

11-13

(a) 4 bars

(b) 7 bars

13. *Back-Relating Dominants.* Cadential $\frac{6}{4}$'s frequently embellish *back-relating dominants,* that is, V chords that function as offshoots of a preceding tonic but that do not resolve into a goal tonic. Turn back to Example 11-10. Because of the rhythmic and melodic groupings, we do not hear the V chords of bars 95 and 97 as moving forward; they close off a musical idea without leading it to a definitive conclusion. We learned in Unit 10 that IV and ii lead to V rather than coming from it. The Mozart excerpt would seem to contradict this principle, but the contradiction is apparent rather than real, for there is no *progression* of a V to a ii. The V grows out of an expanded tonic that in turn forms part of the harmonic framework I (expanded in bars 94 and 96)-ii^6-V^7-I.

14. *Antecedent–Consequent Construction.* Two interdependent phrases that form a larger unit or *period* are in *antecedent–consequent* relation; the first phrase is called the antecedent, and the second is called the consequent. In Example 11-14, two factors working together create the impression of a unified period rather than of two separate phrases. These factors are repetition and the delayed resolution of tonal tension. The second phrase repeats (in slightly varied form) much of the material of the first; the repetition helps to connect the two phrases. An equally important, though less obvious, source of unity is the relationship between the two contrasting cadences. The first phrase closes on V;

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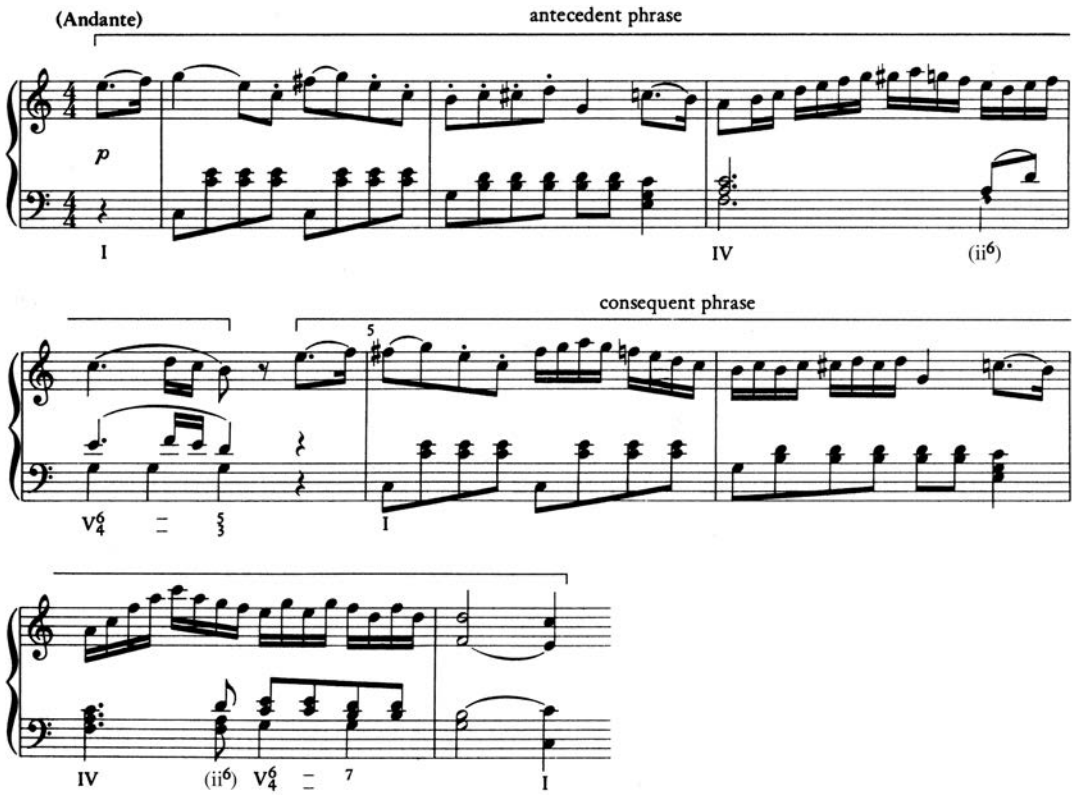
the tension produced by this semicadence is not dissipated by the tonic of bar 5, which is a new beginning, not a goal. Not until the arrival of I and $\hat{1}$ in bar 8 is tonal equilibrium restored. Cadential $\frac{6}{4}$'s often occur prominently in antecedent–consequent groups; by intensifying the dominant chords, they give emphasis to the cadences.

Normally, the two phrases that make up a period are the same length. In the Mozart excerpt, both are four measures long, and the equal durations create a pleasing symmetry and balance. Achieving this equilibrium requires some rhythmic adjustment in the consequent phrase because the goal tonic that ends the consequent adds its duration to the phrase. (The antecedent lacks a closing I.) To fit in this extra time, the consequent cannot repeat the antecedent exactly; somewhere in the course of the phrase, there must be a compression of part of the antecedent's contents. In Example 11-14, the IV-(ii^6) of the antecedent occupies a full measure, whereas the corresponding intermediate harmony of the consequent occupies only half a measure. The time thus gained makes room for the final tonic without lengthening the phrase.

11-14 *Mozart, The Magic Flute,* Act I



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POINTS FOR REVIEW

1. The cadential $\frac{6}{4}$ is *not* an inversion of I; it is an embellishment and intensification of V involving $\hat{1}$ and $\hat{3}$ either as suspensions or accented passing tones.
2. The 4th of the cadential $\frac{6}{4}$ is dissonant and must resolve downward by step. The 6th usually descends by step as well, thus: $\begin{matrix}6\text{-}5\\4\text{-}3\end{matrix}$. The 4th normally enters as a common tone (suspension) or by stepwise descent from $\hat{2}$ (accented passing tone).
3. The cadential $\frac{6}{4}$ occurs on a strong beat relative to the chord of resolution.
4. The bass is the most frequently doubled tone; *never* double the 4th.
5. The normal resolution to V^7 is $\begin{matrix}8\text{-}7\\6\text{-}5\\4\text{-}3\end{matrix}$. Also possible but less frequent is $\begin{matrix}6\text{-}7\\6\text{-}5\\4\text{-}3\end{matrix}$.
6. Melodically, the cadential $\frac{6}{4}$ permits a stepwise descending soprano—$\hat{4}$-$\hat{3}$-$\hat{2}$-$\hat{1}$ or $\hat{2}$-$\hat{1}$-$\hat{7}$-$\hat{1}$—in progressions from ii$^{(6)}$ or IV to V.
7. The cadential $\frac{6}{4}$ should be approached by intermediate or tonic harmony; it should *not* be approached by dominant harmony.
8. A $\frac{6}{4}$ on the dominant is not restricted to cadences; the alternative resolution $\begin{matrix}6\text{-}4\\4\text{-}2\end{matrix}$ avoids a cadential effect.
9. Cadential $\frac{6}{4}$'s often occur in antecedent–consequent construction, in which two interdependent phrases form a larger group or period. The antecedent ends with a semicadence, the consequent with an authentic cadence.

EXERCISES

1. Preliminaries.

   Write three cadential $\frac{6}{4}$ progressions, each in a different key, containing the following:

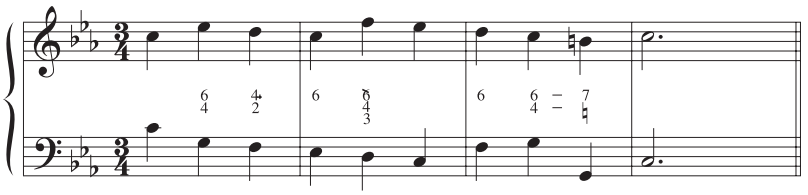
   a. ii
   b. IV
   c. ii^6

   } $V\begin{matrix}6\text{-}5\\4\text{-}3\end{matrix}$ or $\begin{matrix}8\text{-}7\\6\text{-}5\\4\text{-}3\end{matrix}$-I

   Be sure the $\frac{6}{4}$ falls on a strong beat!

Writing phrases

2. Write a phrase in $\frac{3}{4}$ time (major or minor), using IV, ii, ii^6 moving to the cadential $\frac{6}{4}$ of an authentic cadence. The phrase should be four measures long, and the final tonic should occupy the entire last measure. Otherwise, use only half notes and quarter notes. Be sure that the $\frac{6}{4}$ occurs in an appropriate part of the measure. What are the two possibilities in triple time? A sample solution follows.



3. Extend the duration of the phrase described in Exercise 2 by moving the cadential $\frac{6}{4}$ to a dominant $\frac{4}{2}$, along the lines of Example 11-13.

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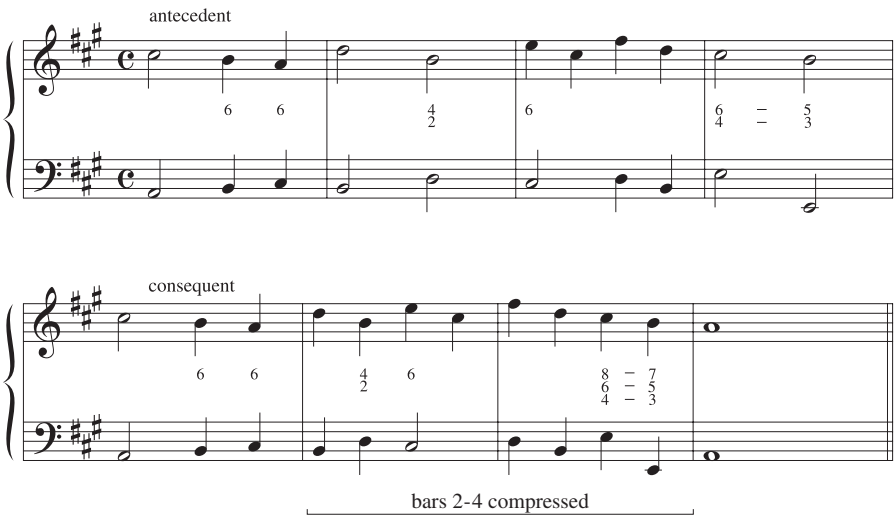
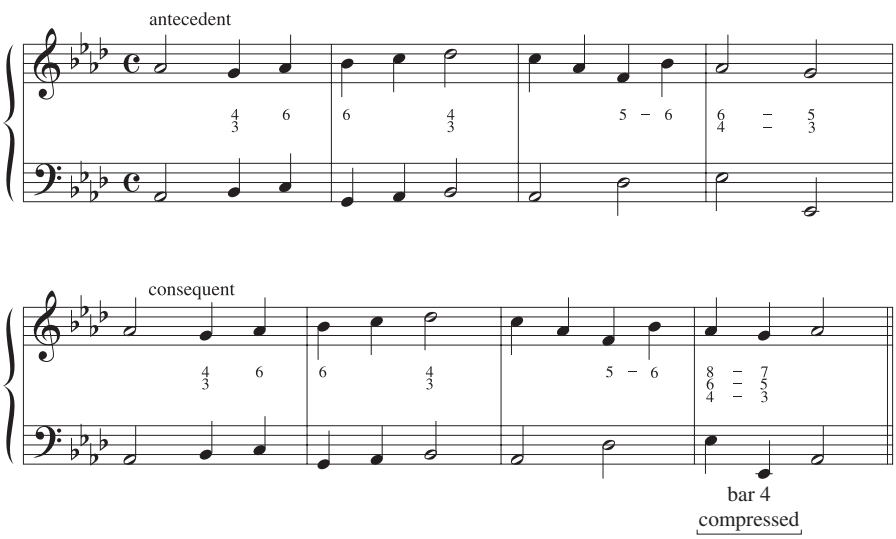
4. Review Section 14, "Antecedent–Consequent Construction." Write a period of two four-measure phrases in antecedent–consequent relation, the first ending with a semicadence, and the second with an authentic cadence. Remember that you will have to compress some part of the repeated phrase (consequent) to make room for the final tonic while keeping the phrases equal in length. The sample solutions show different possibilities for compressing the consequent phrase.

(a)



(b)



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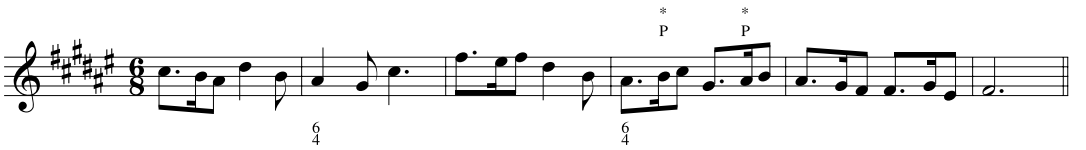
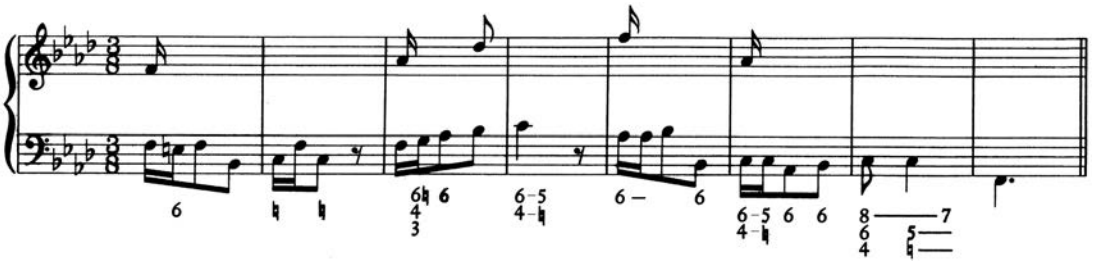
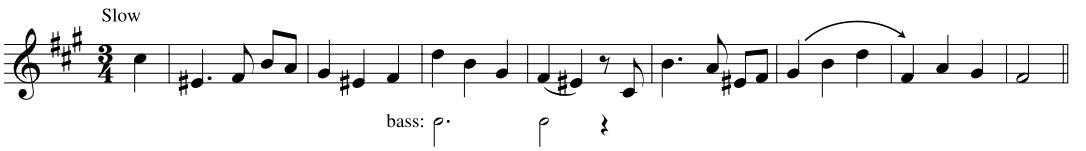
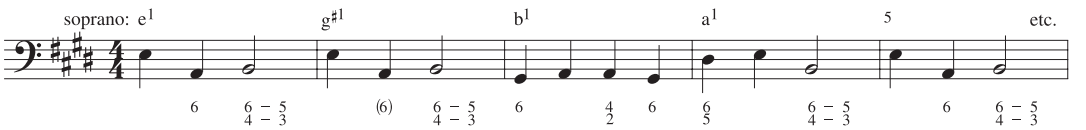
5. Melody. Set note against note *except* for the passing tones marked *.

Note. With the melodic figures 3̂-2̂, 3̂-2̂-1̂, 1̂-7̂, and 1̂-7̂-1̂, remember that the first melodic tone may require the cadential $\frac{6}{4}$—*not* tonic harmony, particularly at cadential points. And don't forget that the cadential $\frac{6}{4}$ must be metrically strong relative to its resolution.

6. Figured bass.

7. Melody. Both cadences should contain a cadential $\frac{6}{4}$.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

8. Figured bass. Set for four voices, and complete the consequent phrase.



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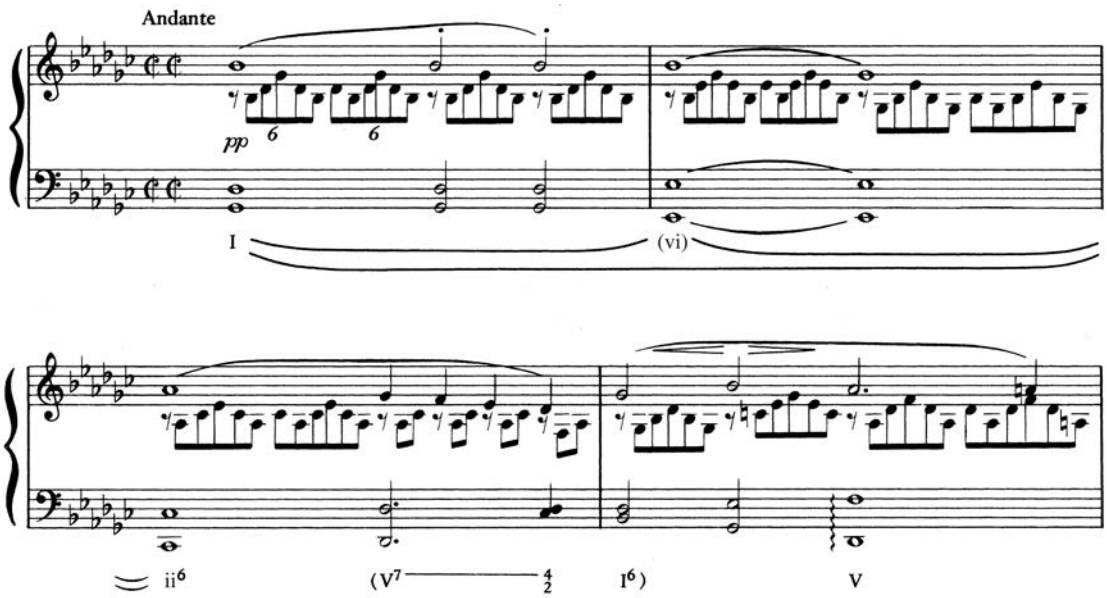
UNIT

12 vi and IV⁶

12-1 *Schubert, Impromptu, D. 899*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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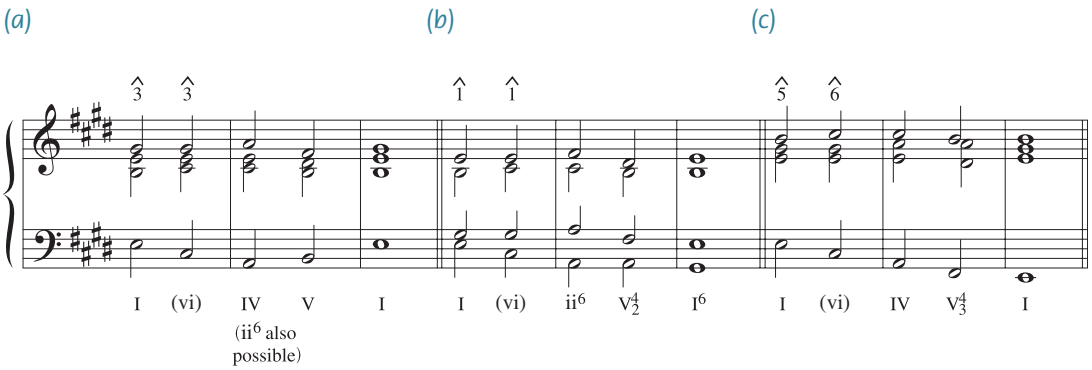
Uses of vi (VI)

1. vi-IV or vi-ii^6 (Descending Thirds). To study harmony and voice leading is to study the expansion of simple patterns into more complex and differentiated ones, creating the possibility for new kinds of tonal motion and new tonal goals. For example, IV and ii^6—chords whose primary purpose is to move on to V—can themselves function as temporary goals of motion. At the beginning of Example 12-1, a bass motion in descending 3rds—a kind of broken chord or arpeggio—leads down from the tonic to the bass of ii^6 in bar 3: G♭-E♭-C♭. The chord on E♭ is vi, a particularly versatile triad with many possible functions. The function illustrated in the Schubert piece is one of the most important and characteristic: to connect I with IV or ii^6 by means of an arpeggiated descending motion in 3rds. In this context, vi serves as a transition chord leading from I to an intermediate IV or ii^6, which usually moves on to V (as in Example 12-1);* sometimes, however, IV or ii^6 leads to an inversion of V$^{(7)}$ or to vii^{o6} for a more contrapuntal bass line. Example 12-2 shows some typical possibilities.

12-2 *vi leading to IV or ii^6*



A particularly beautiful feature in Example 12-1 is the way vi makes it possible to retain the melody tone $\hat{3}$ for six beats without monotony. Because vi and I have both $\hat{1}$ and $\hat{3}$ as common tones, frequently the bass arpeggio using vi will begin with the repetition of one of these tones in the soprano, as in Examples 12-2a and b. This possibility is especially useful at the beginning of a piece or section because it allows the melody to begin calmly, only gradually developing momentum. Another good possibility for the soprano is shown in Example 12-2c.

2. vi-ii (Descending Fifth Progression). Another very important function of vi in the major mode is exemplified in the opening idea of Beethoven's "Spring" Sonata for piano and violin (Example 12-3). Two statements of vi occur in this

*In Example 12-1, the ultimate destination of the ii^6 is the V of bar 4, the chords in between forming a kind of subordinate progression. The C♮ on the second beat of bar 4 functions as a leading tone to V.

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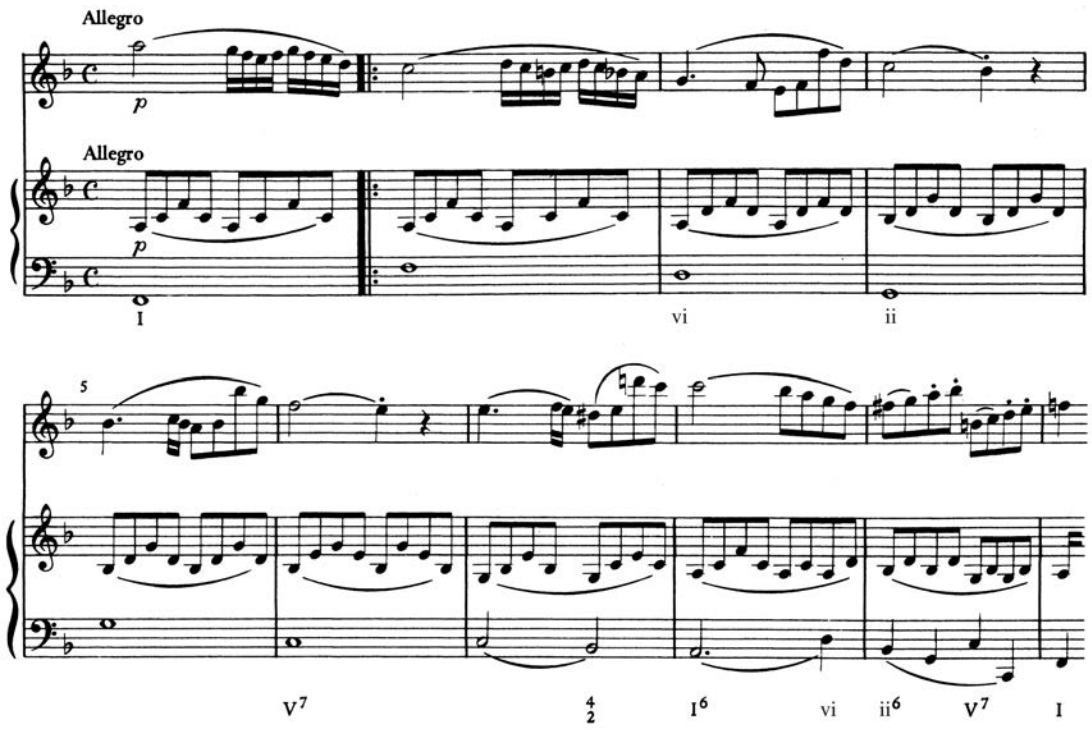
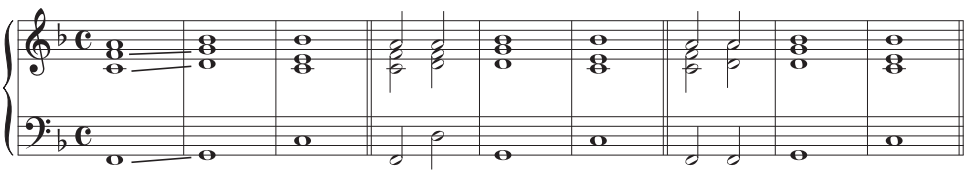
ten-bar phrase (bars 3 and 8); both move to ii, the first in root position and the second in $\frac{6}{3}$ position. The close connection that one feels here between vi and ii—especially in bars 3–4—is largely due to the strong harmonic relationship between these chords. The submediant is built on the scale degree a 5th above ii and thus gravitates to it, as ii does to V and V to I. This harmonic connection is most strongly evident when both chords are in root position; the "harmonic" motion of a 5th (or its inversion, a 4th) will then occur in the crucial bass part. But a weaker harmonic connection can also be implied when ii is in first inversion, as in bar 9 of the Beethoven.

12-3 *Beethoven, Violin Sonata, Op. 24 ("Spring"), I*

(a)

(b) *(c)* *(d)*

parallels averted

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In addition to its harmonic role, as discussed earlier, vi can fulfill a voice-leading function. The reductions in Examples 12-3b–d illustrate the harmonic progression in bars 1–6 of Beethoven's Violin Sonata. The first pattern in 12-3b shows the essential I-ii-V^7 (T-Int-D), a motion that can lead to parallel octaves and 5ths with the soprano pattern $\hat{3}$-$\hat{4}$-$\hat{4}$. Beethoven avoids the parallels by inserting (vi) between I and ii. The close affinity between I and vi is shown in Example 12-3d: a contrapuntal 5-6 motion transforms the initial tonic into a D-minor triad (which Beethoven uses in root position). This particular harmonic process can be significant for larger spans of music; we explore other possibilities in later units.

Because $ii^{o}\frac{5}{3}$ in minor is a problematic diminished triad, and because the roots of VI and ii^{o} in minor form a diminished, rather than a perfect, 5th, the progression VI-$ii^{o}\frac{5}{3}$ does not have the significance in minor that it does in major. However, VI-ii^{o6}—where the vertical diminished 5th is softened and the horizontal one eliminated—can and does occur as freely as in major.

3. *vi Approaching V from Above.* I can move to V with either a rising or a falling bass. Both possibilities are good, and both occur frequently, but the rising bass is the more "natural"—that is, it relates more directly to fundamental properties of the tonal system. $\hat{5}$ lies above $\hat{1}$ in the tonic triad and in the overtone series; the normal position of $\hat{5}$, therefore, is *above* $\hat{1}$, and the bass line of a I-V progression will most naturally ascend. The most frequently used intermediate harmonies—ii, IV, and ii^6—have bass tones that lie between $\hat{1}$ and the $\hat{5}$ above it; these harmonies help to fill in, and thus, make partially stepwise the ascending 5th from $\hat{1}$ to $\hat{5}$.

Music would not have reached a very high level of development, however, if composers had confined themselves to the simplest and most basic possibilities. Thus, as we know, we can invert the rising 5th and produce a descending 4th; and the bass descent of a 4th between I and V is a particularly important tonal motion. We will now investigate the possibility of using an intermediate harmony within this descending 4th, thus approaching V from above. The most important of these chords are vi and IV^6.

The submediant does not lead directly to V as often as it leads to ii, IV, or ii^6, but the progression vi-V—where vi functions as an intermediate harmony—is nonetheless an extremely useful one. It is particularly well suited to a rising top voice, such as the $\hat{1}$-$\hat{2}$-$\hat{3}$ in Example 12-4. Note that in minor, the 3rd of VI must be doubled to avoid a melodic augmented 2nd (Example 12-5).

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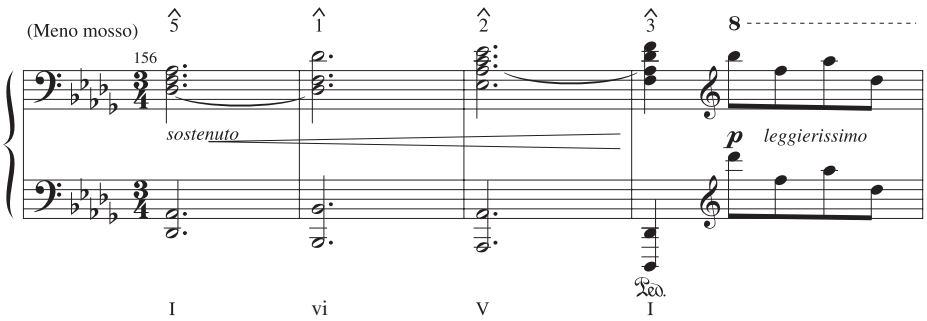
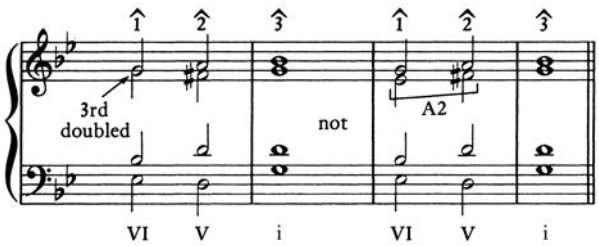
12-4 *Chopin, Scherzo, Op. 39*

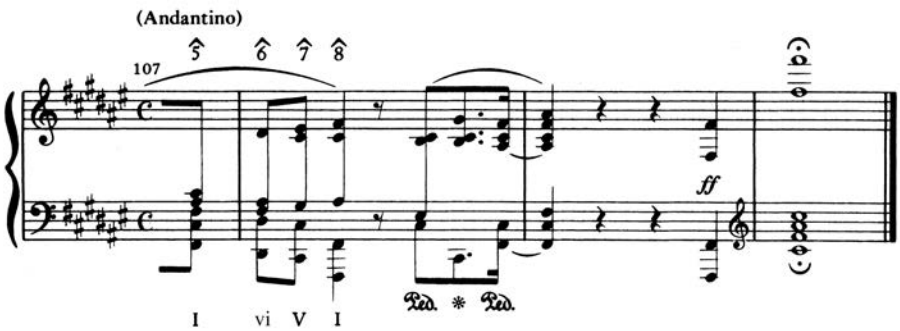


12-5 *VI-V-I with rising soprano*



A less frequent possibility for the top voice is $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ in major, which produces an unusually large number of perfect consonances. Don't use this combination in minor: if VI from natural minor is used, a melodic augmented 2nd is the result, whereas the submediant (from melodic minor) is a very ugly diminished $\frac{5}{3}$ chord (Examples 12-6b and c). Compare Chopin's harmonization of $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ with the minor-mode alternative shown in Example 12-6d, a progression we discussed previously in Unit 10, Section 10.

12-6

(a) Chopin, Impromptu, Op. 36

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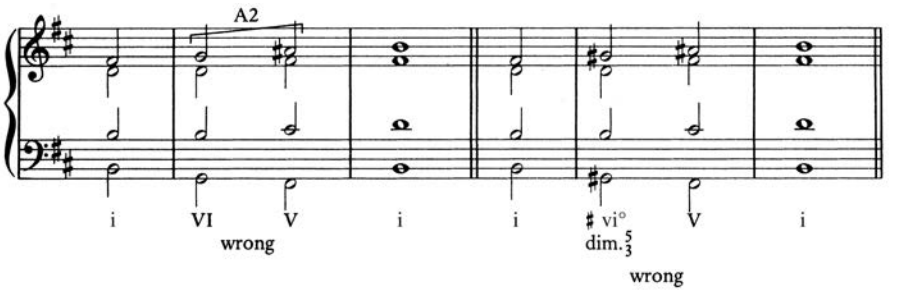
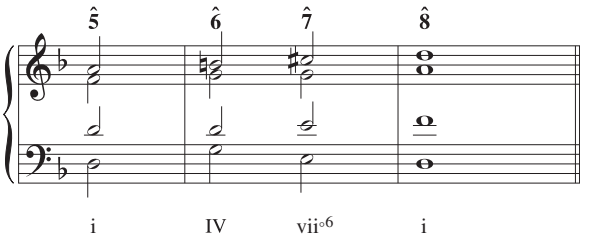
(b) (c)



(d)

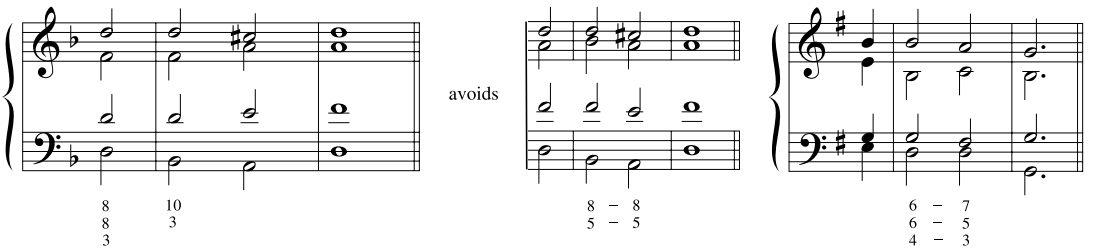


In a progression from vi to V, the top voice can move in parallel 10ths with the bass. This voice leading is especially suitable for cadential points where a descending soprano is often desirable. The voice leading carries, however, the threat of parallel 5ths and octaves. To prevent these, *double the 3rd of vi* and move *both* inner voices up, as in Example 12-7.

If the submediant moves to the cadential $\frac{6}{4}$, doubling the 6th of the cadential $\frac{6}{4}$ will help avoid parallel octaves (Example 12-7b). (Remember that the 6th above the bass in a cadential $\frac{6}{4}$ is consonant and consequently may be doubled; but avoid doubling the dissonant 4th.)

12-7

(a) parallel 10ths (b)



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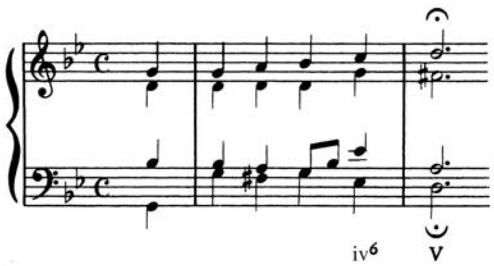
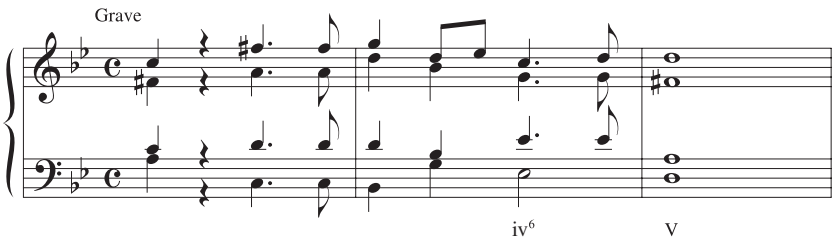
Uses of IV⁶

4. iv⁶-V: The Phrygian Cadence. The second important chord whose bass descends by step to V is iv⁶. The VI and iv⁶ chords in minor often appear in similar situations; they may function as intermediate harmonies and relate to each other exactly as do IV and ii⁶ in major, sharing two common tones (one of them the bass). To change VI to iv⁶, we use the 5-6 technique, moving the 5th of VI up one step, exactly like changing IV to ii⁶; the same process occurs in the major mode (vi to IV⁶).

The two excerpts shown in Example 12-8 may function as intermediate harmonies and demonstrate a most important function of iv⁶: preceding V in a semicadence in minor. This makes a stronger effect than in major because of the bass motion by half step, which intensifies V. The term *Phrygian cadence* is often applied to the semicadence iv⁶-V in minor, not because the piece in question is even partly in the Phrygian mode, but merely because a similar chord progression often appears at cadences in genuine Phrygian compositions (Example 12-9).

12-8

(a) Bach, Chorale 281

(b) Handel, Concerto Grosso, Op. 3/2, I

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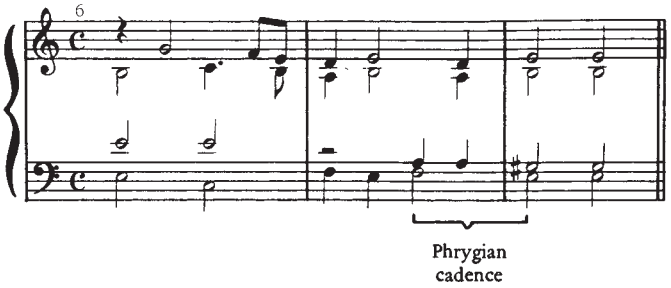
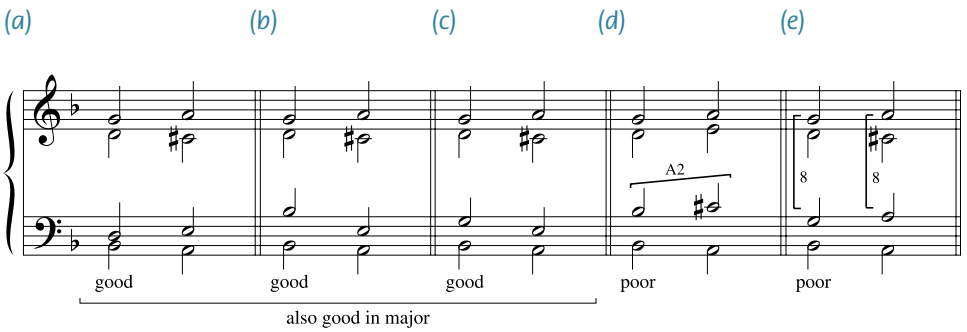
12-9 *Bartolomeo Tromboncino (f. 1500), "Non val aqua"*



When used as a semicadence in minor, the Phrygian cadence occurs most typically in compositions from the Baroque period. Like any semicadence it will most naturally appear as an interior, rather than a final, cadence. Quite frequently, however, composers of the Baroque era ended slow movements with such a cadence (thus ending on V rather than on the tonic), if the slow movement was not an independent composition but part of a larger work.

When iv⁶ is used in a Phrygian cadence, the usual tone to double is the 3rd above the bass, as in Examples 12-9 and 12-10a; this permits a completely stepwise progression into V and reduces the danger both of parallel octaves and of a melodic augmented 2nd (Example 12-10).

12-10 *iv⁶-V: doubling*



Perhaps you have noticed that all our examples of iv⁶-V include the top-voice progression $\hat{4}$-$\hat{5}$. This is not invariable, but it is typical both for Phrygian cadences and for many other situations where iv⁶ (IV⁶) moves to V, whether in minor or major. IV^5_3 could never move to V under a soprano line $\hat{4}$-$\hat{5}$ because of the inevitable parallel octaves. Example 12-11 illustrates this most useful feature of IV⁶.

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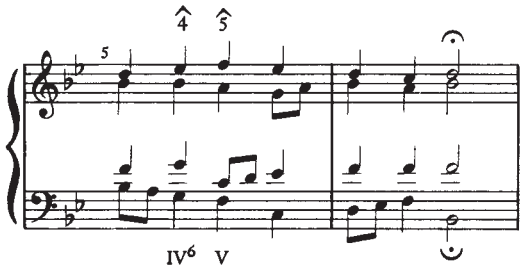
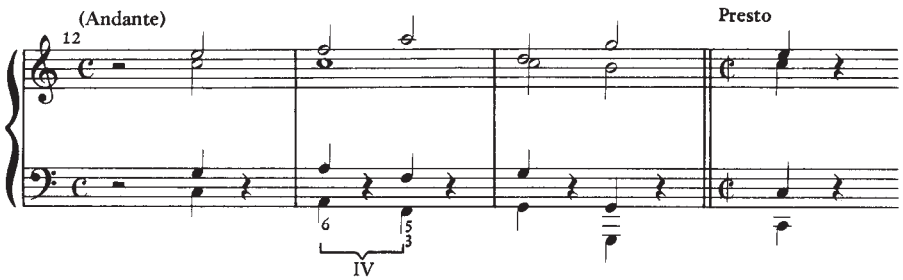
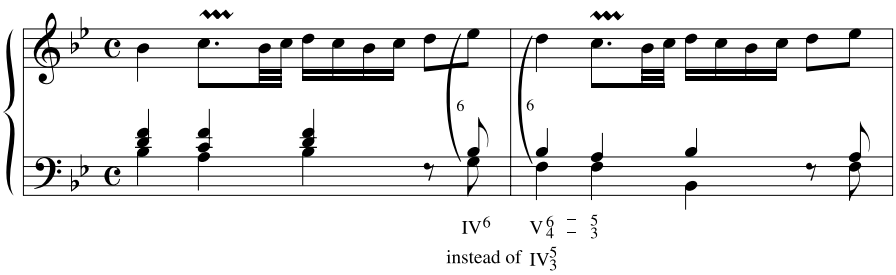
12-11 *Bach, Chorale 256*

5. IV⁶-V: *Other Possibilities.* Leading to V with the top-voice progression $\hat{4}$-$\hat{5}$ is a specialized function of IV⁶, one that it fulfills more readily than any other chord. IV⁶ can also *expand* IV (Example 12-12a) and *substitute* for root-position IV where a lighter sonority, a descending bass, or both are desired (Example 12-12b). In addition, IV⁶ can appear instead of vi in a bass arpeggio leading to IV (Example 12-12a) or ii⁶ (Example 12-12c). Two further possibilities are: IV⁶-cadential $\frac{6}{4}$ with the soprano in parallel 6ths with the bass (Example 12-12b), and iv⁶-V⁷ with the 6th of iv⁶ preparing the 7th (Example 12-12d).

12-12

(a) Mozart, Overture to Così fan tutte, K. 588



(b) Handel, Air *(from Leçon No. 1)*



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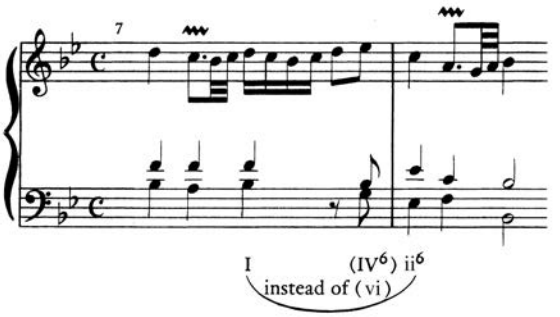
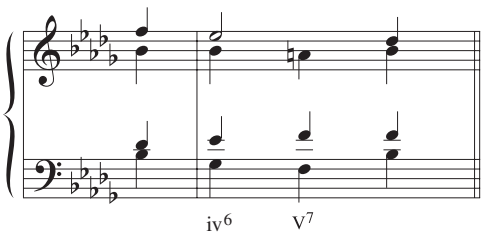
(c) (Handel, Air)

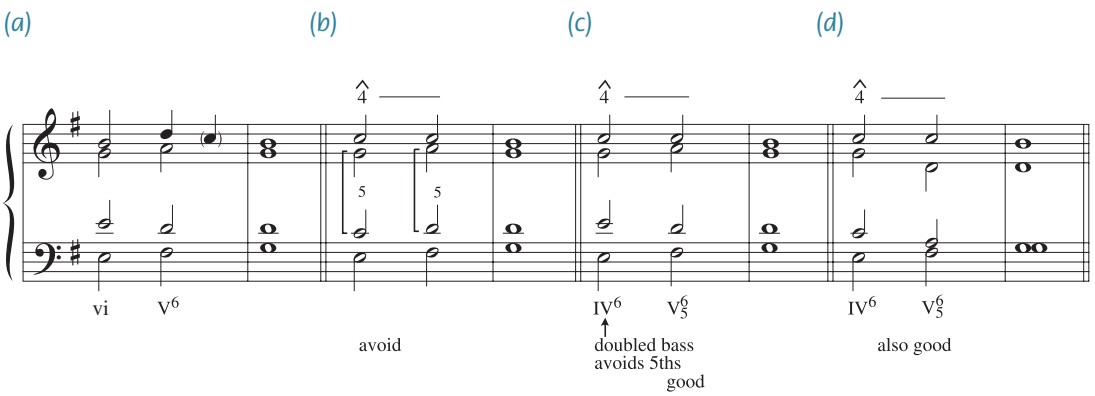


(d) iv⁶-V⁷



6. *vi and IV⁶ Ascending to V⁶ ($\frac{6}{5}$).* The vi and IV⁶ chords normally move to root-position V, but their use is by no means restricted to such a progression. In major, if a melodic, noncadential bass is appropriate, both chords can move to V⁶ ($\frac{6}{5}$) and then on to I (Example 12-13). Be careful, though, when you move from IV⁶ to V$\frac{6}{5}$. It's easy to get parallel 5ths (12-13b). In Examples 12-13b–d, the soprano repeats $\hat{4}$, a frequent top voice with IV⁶-V$\frac{6}{5}$; in Example 12-13e, note the beautiful counterpoint between the descending arpeggio of the top voice and the ascending stepwise bass line. Notice in these progressions that both vi and IV⁶ function as intermediate harmonies but lead to a less stable (and non-cadential) position of V or V⁷.

12-13 *bass line $\hat{6}$-$\hat{7}$-$\hat{8}$ in major*



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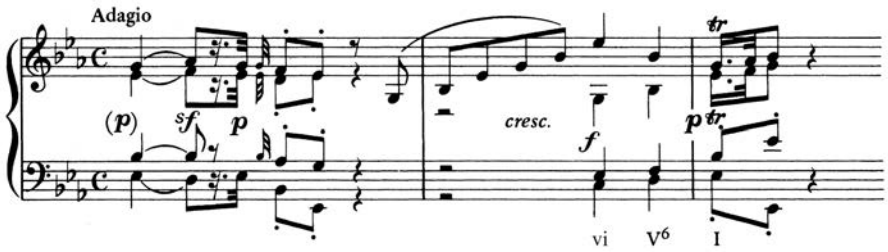
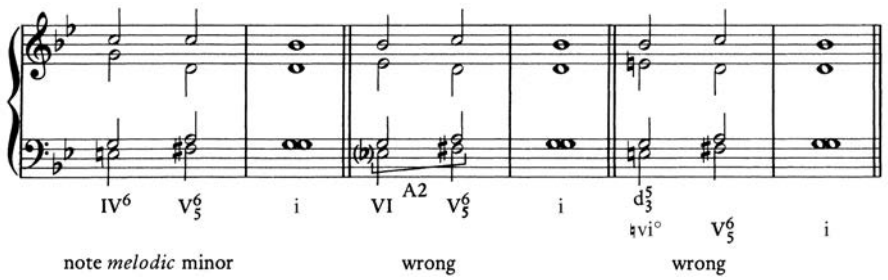
(e) Mozart, String Quartet, K. 458, III

In the minor mode, major IV⁶ (from the *melodic* minor) may go to V⁶ ($\frac{6}{5}$), but VI cannot without disastrous consequences. Example 12-14 illustrates. In minor, the bass line $\hat{6}$-$\hat{7}$-$\hat{8}$ must be altered to conform to the melodic minor scale (both $\hat{6}$ and $\hat{7}$ must be raised), resulting in a major IV⁶.

12-14 *bass line $\hat{6}$-$\hat{7}$-$\hat{8}$ in minor*

(a) *(b)* *(c)*



7. *Harmonic Syntax: The Order of Intermediate Harmonies.* In Unit 10, Section 14, we discussed harmonic syntax and the T-Int-D-T framework. We now have three chords—IV, ii, and vi—that belong to the intermediate class of harmonies and may lead from I to V, either singly or in a group of two or even three. If we combine several of these chords in a motion to V, we must be careful of the order in which they appear. The principle is as follows: The roots of the chords must *descend* by 5th or 3rd. Thus, vi-IV-V is good; IV-vi-V is not. The progression vi-ii-V is good; ii-VI-V is not. The successions IV-ii-V and vi-IV-ii-V are good, but ii-IV-vi-V is not. The reason is that progressions by descending 5th and 3rd sound more goal-oriented than do their reversal into rising motions, in which the second chord tends to sound more like an offshoot of the first chord than a step forward; the new root does not sound like a new tone because it has already occurred in the preceding chord. If we go ii-vi or IV-vi in C major, the A of vi has already sounded in the ii or IV chord, which weakens the feeling of moving toward a goal. The motion up a 3rd (as in ii-IV or IV-vi) is especially problematic because there are two common tones, one of them the new root. This makes for so little contrast between the chords that the effect

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is almost like repeating the first chord. (Root progressions by rising 3rd are often termed "weak progressions.") Under certain conditions, progressions by rising 5th and 3rd are acceptable, and you will learn to use them, but at present avoid them.

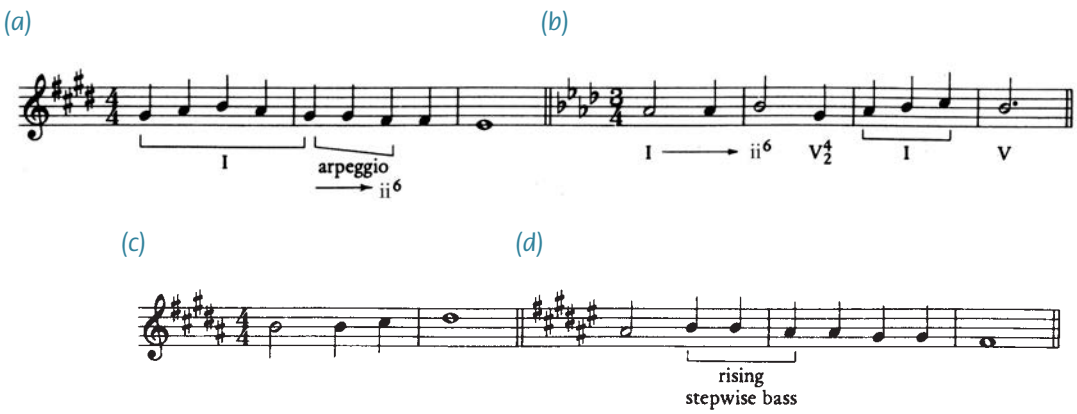
POINTS FOR REVIEW

1. vi makes possible the bass-arpeggio progression I-vi-IV or I-vi-ii^6 (or their minor-mode equivalents). In these contexts, vi functions as a transition chord leading from tonic to intermediate harmonies.
2. I-vi often supports repeated $\hat{1}$ or $\hat{3}$ in the soprano. Another possibility is $\hat{5}$-$\hat{6}$.
3. vi leads to ii or ii^6 in a descending fifth-progression. In minor avoid VI-ii$^{o\frac{5}{3}}$.
4. vi approaches V from above and functions as an intermediate harmony. In this progression, the top voice can ascend $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ (major only) or $\hat{1}$-$\hat{2}$-$\hat{3}$ (both modes) or it can form parallel 10ths with the bass (with the 3rd of vi doubled to avoid parallel 5ths).
5. IV^6-V: a frequent soprano line is $\hat{4}$-$\hat{5}$; in minor, iv^6-V forms a Phrygian cadence.
6. A characteristic doubling for IV^6 is the 3rd above the bass (the tonic note). If you double the bass in minor, be sure to avoid the melodic augmented 2nd.
7. IV^6 can extend or substitute for IV; IV^6 relates to vi through the 5-6 technique.
8. Possible rising bass progressions are vi-V^6($\frac{6}{5}$)-I (major only), IV^6-V^6($\frac{6}{5}$)-I (major), and IV^6-V^6($\frac{6}{5}$)-i (*melodic* minor). In these progressions, vi and IV^6 function as intermediate harmonies moving to non-cadential positions of V or V^7.
9. Harmonic syntax: In a group of intermediate harmonies, move down in 3rds and 5ths, not up.

EXERCISES

Note. In setting melodies, keep in mind that a repeated or sustained $\hat{1}$ or $\hat{3}$ may indicate the beginning of a bass arpeggio, that the melodic progression $\hat{4}$-$\hat{5}$ in the minor mode often suggests iv^6-V, and that the progression $\hat{1}$-$\hat{2}$-$\hat{3}$ can be set vi-V-I (or its minor-mode equivalent VI-V-i).

1. Preliminaries. Melodic fragments.



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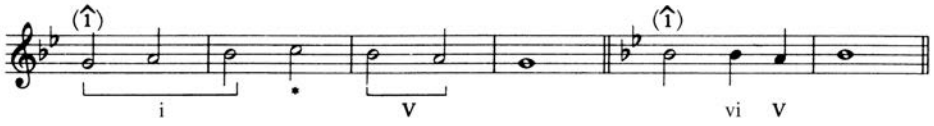
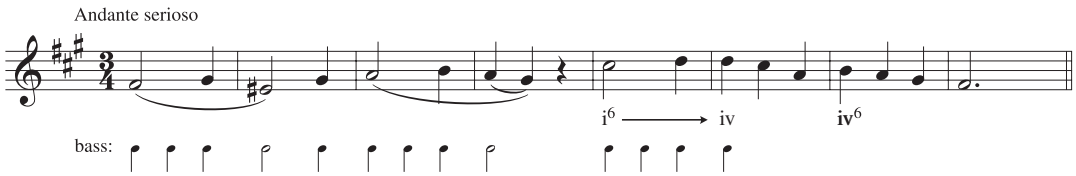
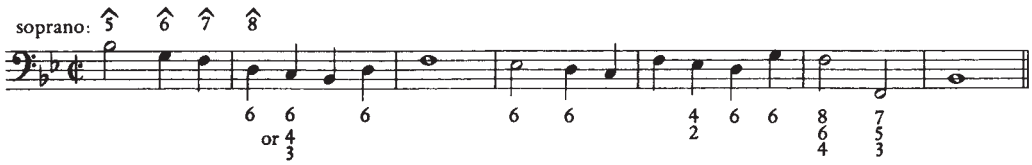
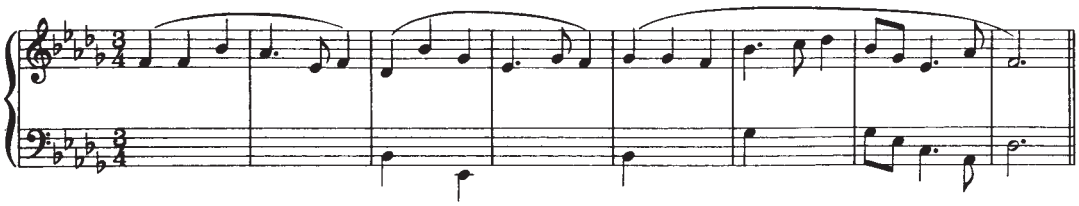
(e) (f)

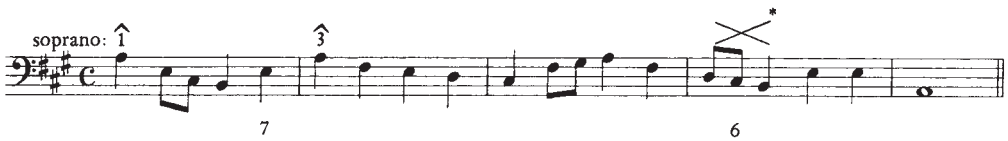


*approach V from above

2. Phrase writing. Write a phrase in major that begins with a bass arpeggio I-vi-IV or I-vi-ii⁶. The melody should sustain $\hat{1}$ over both I and vi and should gradually rise as the phrase continues, incorporating a motion from $\hat{4}$ to $\hat{5}$ over IV⁶-V.

3. Melody.

4. Figured bass. Explain the V followed by ii⁶ in measures 3–4 (see Unit 11, Section 13).

5. Melody.



6. Mostly unfigured bass.

*voice exchange with soprano

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MINDTAP

Guided Exercises

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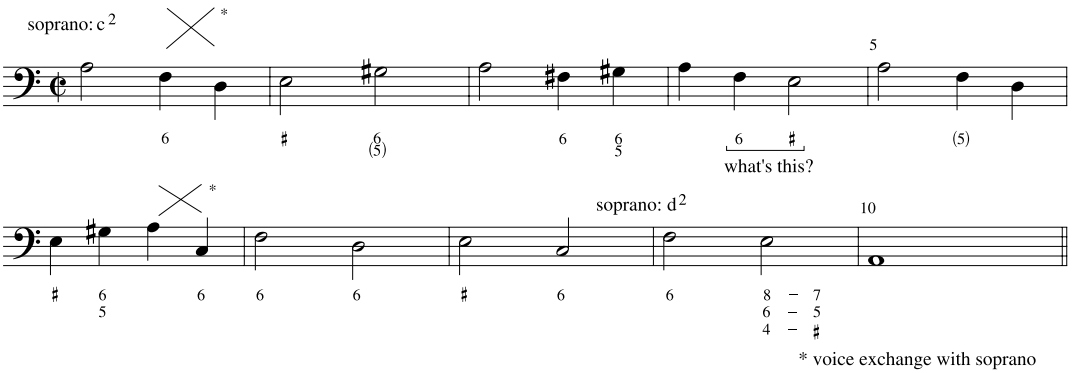
7. Figured bass.



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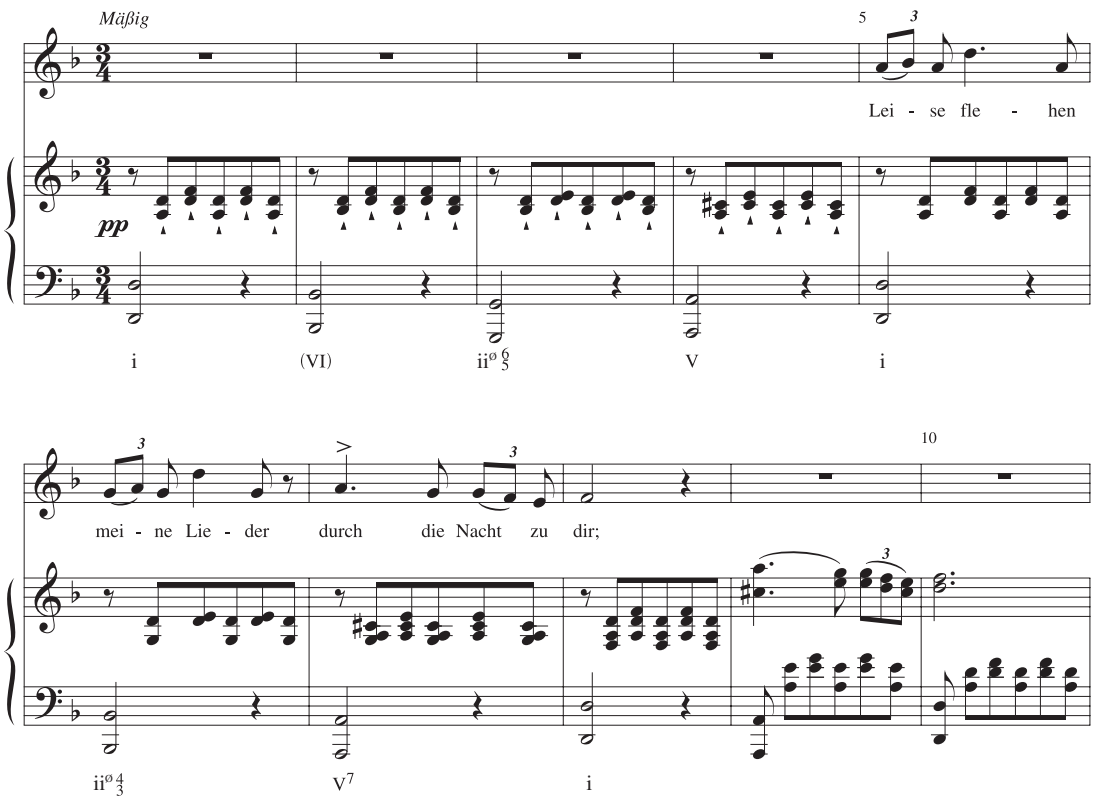
UNIT

13 Supertonic and Subdominant Seventh Chords

13-1 Schubert, "Ständchen" (from *Schwanengesang*, D. 957)

translation: Softly imploring, my songs go through the night to you.

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1. ii^7 and IV^7. Schubert's well-known "Ständchen" (Serenade) begins with a four-bar piano introduction that evokes the sound of the serenader's guitar. The harmonies have a good deal in common with those of the Schubert Impromptu excerpt that begins Unit 12. In both, a beginning tonic moves through the submediant to a first inversion of supertonic harmony. In the Impromptu, the supertonic chord was the familiar ii^6; in the song, however, it is a most important *dissonant* harmony: the half-diminished ii$^{ø\frac{6}{5}}$. Adding a 7th to ii or IV (like the D in bar 3 of the Schubert song in Example 13-1) transforms the original triad into a seventh chord; the dissonant harmonies that result (in both modes) are among the most frequently used of all nondominant seventh chords. By far the most important position is ii$^{\frac{6}{5}}$, an indispensable chord that occurs particularly often in Bach's music but is at home in tonal music of all periods. Next in order of frequency are ii^7 and IV^7, and other positions are by no means uncommon—note the ii$^{ø\frac{4}{3}}$ supporting the second bar of "Ständchen's" vocal line (bar 6).

Adding a 7th to ii and IV does not change their tendency to move to dominant harmony; on the contrary, the dissonance activates these chords and intensifies their motion toward V. Dissonance treatment greatly resembles that of V^7. As Example 13-1 shows, the process of resolution is exactly the same—*downward and by step*. The way the dissonance is introduced also resembles V^7 but tends to be stricter. Most frequently, the 7th enters as a common tone held over or repeated from the preceding chord; it is usually accented and functions as a suspension. Where it is not prepared as a common tone, the 7th generally functions as a passing tone (8-7) within an extended ii or IV. Except in rather free or complex textures, the 7th will not enter by leap, as sometimes happens in V^7 when the 7th enters unprepared as an incomplete neighbor. As you study the examples and work with these dissonant chords, remember that the 7th is usually ***P***repared and ***R***esolved in the ***S***ame ***V***oice (remember "PRSV" to remind you of this principle).

In four-part writing ii$^{\frac{6}{5}}$, the other inversions of ii^7, and the various positions of IV^7 are virtually always complete chords. However, root-position ii^7, especially in major, will sometimes appear with 5th omitted and with doubled root or 3rd.*

Supertonic Seventh Chords

2. ii$^{\frac{6}{5}}$. Example 13-1 shows the first inversion in its most characteristic use: as an intermediate harmony connecting i with a cadential V. As the example indicates, the dissonant tone is the 5th above the bass, here the inner-voice D. In any position of ii^7, the dissonant tone is $\hat{1}$; as a dissonance, $\hat{1}$ cannot

*Remember, in the minor mode, the symbol for the subdominant seventh chord is iv^7.

MINDTAP

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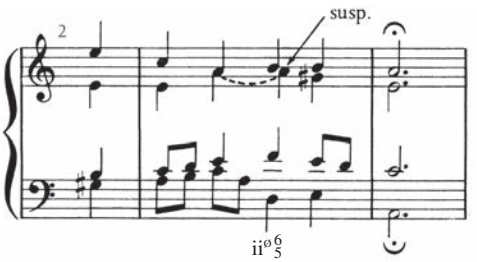
serve as goal of motion, but is dependent on $\hat{7}$, to which it resolves by stepwise descent. (We encountered the same reversal in the melodic functions of $\hat{1}$ and $\hat{7}$ with the cadential $\frac{6}{4}$; see Unit 11, Section 9.) Like the cadential $\frac{6}{4}$, ii$^{6}_{5}$ grows out of the suspension of $\hat{1}$ into a cadential leading tone; with ii$^{6}_{5}$, however, two harmonies—ii and V—accompany the suspension and its resolution. In keeping with its origins as a suspension, ii$^{6}_{5}$ is normally accented relative to the V to which it moves, though exceptions are much more frequent with ii$^{6}_{5}$ than with cadential $\frac{6}{4}$. (In Example 13-1, each chord lasts a whole bar, and the ii$^{ø6}_{5}$ falls on a strong bar, the third.)

The preparation of the dissonance as a common tone is another inheritance from the ancestral suspension. In Example 13-1, the D is held over from i and VI (where it is consonant) before the arrival on ii$^{ø6}_{5}$ makes it dissonant. In the Bach excerpt of Example 13-2, note how the alto leaps to A on the second beat. The sole purpose of leaping at this point is to prepare the suspension; keeping the E through the second beat would have produced an irregular leap into the dissonance.

13-2 *Bach, Chorale 99*

The ii$^{6}_{5}$ can support $\hat{1}$, $\hat{2}$, and $\hat{6}$ in the soprano (Example 13-3); $\hat{4}$ is possible in four parts only if ii$^{6}_{5}$ is incomplete—a most unusual procedure. At strong cadences, ii$^{6}_{5}$, like ii^{6}, tends to support $\hat{2}$ in the soprano (as in the Schubert and the Bach examples). In general, ii$^{6}_{5}$ resembles ii^{6}, of course, but the two chords are not completely interchangeable. The ii$^{6}_{5}$ derives a much richer sonority from the added dissonant tone; its progression to V highlights the leading tone by resolving into it from a dissonance. These features often make it preferable to ii^{6}. On the other hand, ii^{6} is often to be preferred if a light texture is appropriate. Sometimes the progression of the soprano will determine which of the two chords is better. If the soprano repeats or holds $\hat{2}$ (as in Example 13-2), ii$^{6}_{5}$ frequently gives a better sonority and (in minor) prevents an augmented 2nd. If the soprano descends from $\hat{2}$ to $\hat{7}$, however (as in Example 13-3c), ii$^{6}_{5}$ will not readily work, because the dissonant 7th cannot be prepared and resolved in the same voice. For the present, therefore, ii^{6} remains the only possibility.

Another difference between ii$^{6}_{5}$ and ii^{6} is that ii$^{6}_{5}$ supports $\hat{6}$ in the soprano much more easily; the repetition of $\hat{1}$ (coming from a tonic) removes the danger of parallel 5ths (Example 13-3d).

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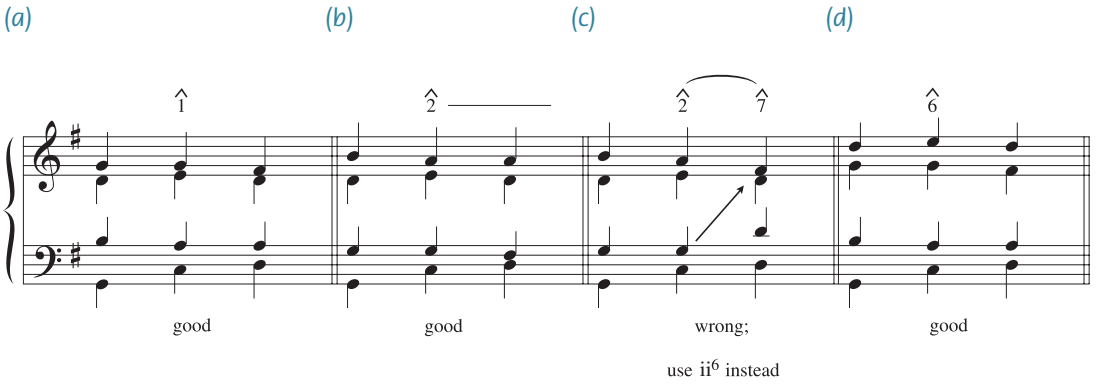
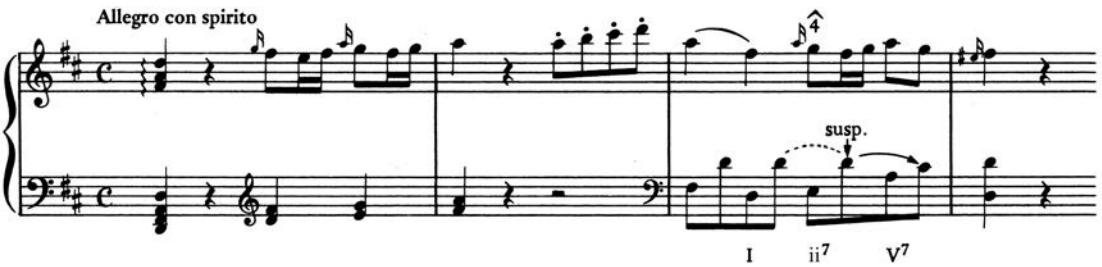
13-3 *ii$^{6}_{5}$ and soprano voice*



3. ii^{7}. The ii^{7} chord occurs fairly frequently in composition (Example 13-4), but less so than ii$^{6}_{5}$ (just as ii is less common than ii^{6}, at least as a cadential chord). In this Mozart Sonata, the melody in the second half of bar 3 is an embellished G; the top voice of ii^{7}, therefore, is $\hat{4}$. Like ii, ii^{7} very frequently supports $\hat{4}$ in the soprano; the 10th between the outer voices makes for a fluent contrapuntal setting. In the Schumann song (Example 13-4b), the vocal part has a dissonant $\hat{1}$ as top-voice tone for ii^{ø7}; this is another very frequent possibility and one where the prominence of the dissonance adds to the intensity of the chord. Notice in Example 13-4b how the addition of the 7th improves the sound of root-position ii^{o} in minor.

13-4 *ii^{7}*

(a) Mozart, Piano Sonata, K. 311, I

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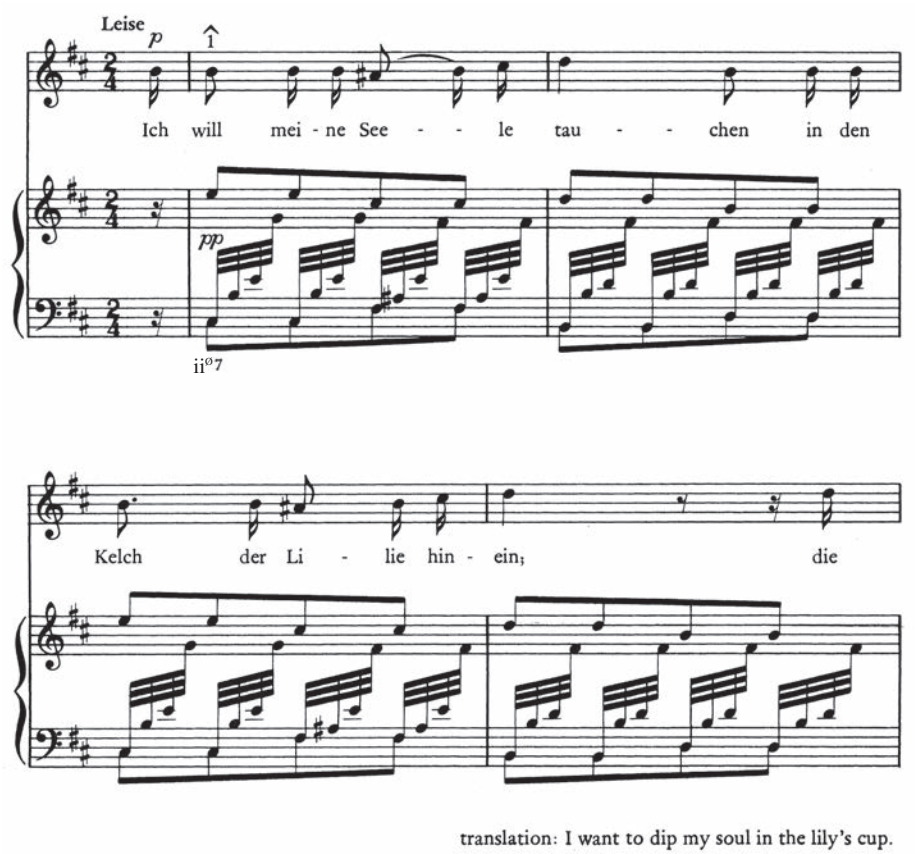
(b) Schumann, "Ich will meine Seele tauchen" (from *Dichterliebe*, Op. 48)

Leise
p
1
Ich will mei - ne See - - le tau - - chen in den
pp
ii⁰⁷
Kelch der Li - lie hin - ein; die
translation: I want to dip my soul in the lily's cup.

The ii^7 is easily approached by I^6; in this progression, a complete chord is possible in both major and minor (Examples 13-5a and b). When approached by I^5_3, however, ii^7 presents greater problems in voice leading than ii^6_5 does. In moving from I to ii^7 in major, the necessity of preparing the 7th and the danger of parallel 5ths make it almost obligatory to omit the *5th* of ii^7 and to double the *root* or *3rd* (Examples 13-5c and d). In minor, the diminished 5th of ii^{ø7} eliminates the danger of parallels and, at the same time, lends a characteristic sonority to the chord (Example 13-5e). For these reasons, the complete chord occurs more frequently in minor than in major. Nevertheless, securing a smooth introduction for the 7th of V^7 often makes it advisable to use the incomplete chord in minor as well (Example 13-5f).

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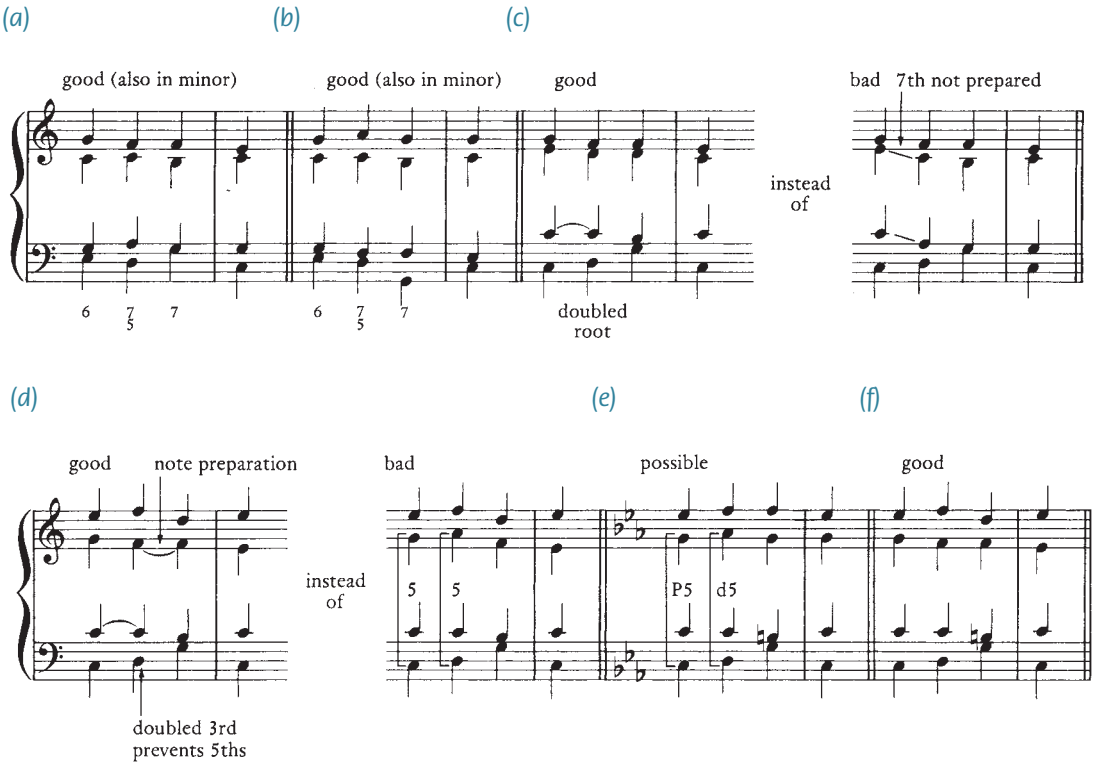
13-5 *ii⁷ voice leading and doubling*



4. *Moving to V⁷.* In Examples 13-4 and 13-5, ii⁷ moves to V⁷ rather than V^5_3. If we move from ii⁷ to V⁷, we interlock two dissonant chords; the immediate succession of two dissonant chords is perfectly correct as long as the dissonant *tones* resolve correctly. Especially when $\hat{4}$ is the soprano tone of ii⁷, moving to V⁷ makes for logical and connected voice leading; $\hat{4}$ holds over to become the 7th of V⁷ and then resolves to $\hat{3}$, usually over I (Example 13-6a). And, in fact, if $\hat{4}$ in the soprano is not held as a common tone (if, for instance, it leaps down to $\hat{2}$), then it is usually best to double $\hat{4}$ (the 3rd of ii⁷) in an inner voice to secure a good preparation for the 7th of V⁷ (Example 13-5d and the piano accompaniment to Example 13-4b).

The ii^6_5 chord can also move to V⁷, but it does so less readily than ii⁷ does. In four-part texture, ii^6_5 does not contain $\hat{4}$ in any of the upper voices ($\hat{4}$, of course, is in the bass). This means that the 7th of V⁷ must enter through the leap of a 3rd (Examples 13-6b and c). Although not incorrect, these voice leadings are less smooth than the completely stepwise progression of ii^6_5 to V (as in Example 13-2), a voice leading that provides a particularly good accompaniment to the resolution of the suspension. Of the last two possibilities in Example 13-6, the one shown in Example 13-6c is the more natural, in that the tendencies of the active notes are fulfilled (and the 7th of V⁷ is approached by leap from below instead of above). Leaping away from the $\hat{6}$ (as in Example 13-6b), instead of leading it to $\hat{5}$, its normal goal, can sound forced in simple textures like those of four-part vocal music, but this device does sometimes occur, especially in instrumental style.

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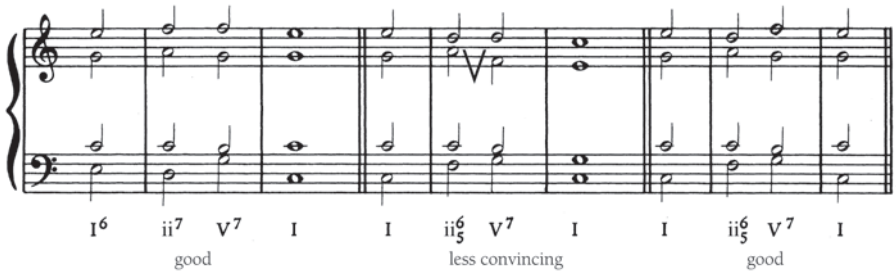
13-6 *moving to V⁷*

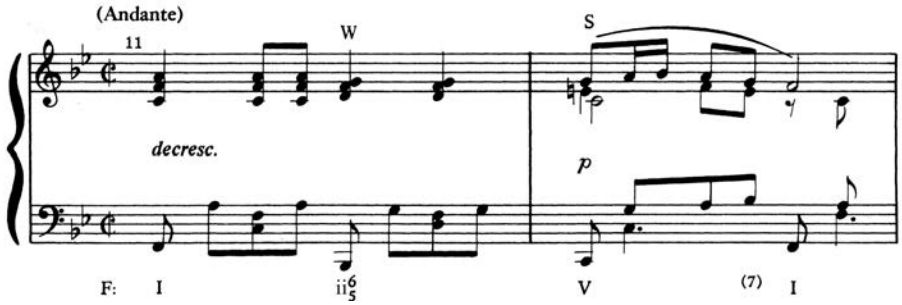
(a) *(b)* *(c)*



5. *Metric Position.* In all the examples from the literature presented so far, ii^6_5 and ii^7 have appeared on strong beats, the dissonant tone functioning as a suspension. And the dominant chord that follows has been metrically weaker than the ii^7. This is the usual situation, but by no means an invariable one. Sometimes ii^7 ($^6_5$) appears on a weak beat and leads to an accented dominant. Such is the case in Example 13-7, an excerpt from a Schubert Impromptu. In this instance and in similar ones, although the dissonance is repeated as a common tone, it is not really a suspension, for it is metrically weak. As the explanatory sketches indicate, the dissonance is derived from a passing tone within ii^6; the passing motion is contracted from three tones to two, through the omission of the first tone.

13-7 *Schubert, Impromptu in A♭, D. 935*

(a)



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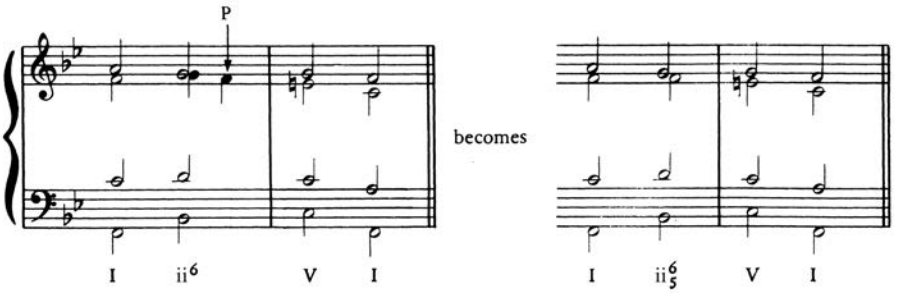
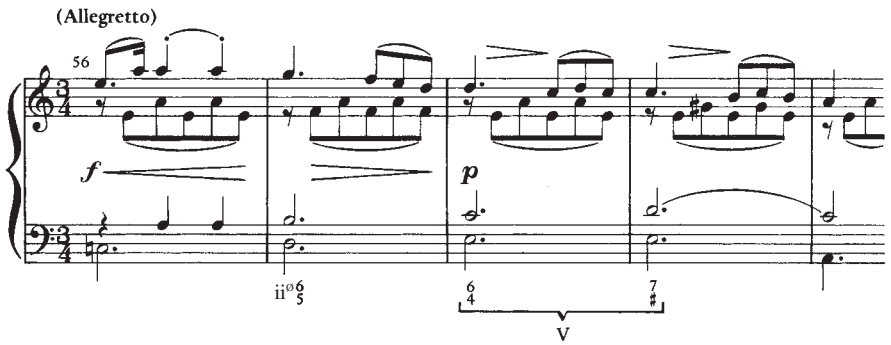
(b) (c)



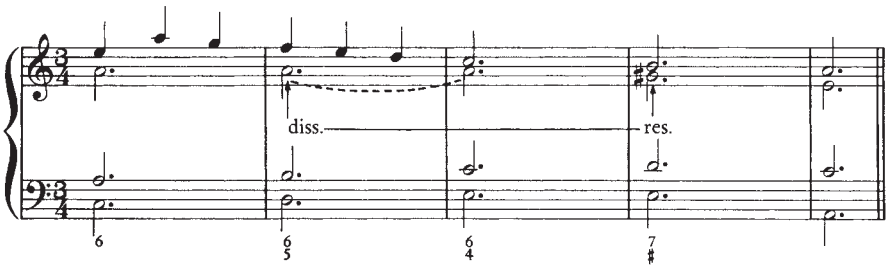
6. *Moving to a Cadential $\frac{6}{4}$.* The ii^7 or ii$^6_5$ chords can move to a dominant embellished by a cadential $\frac{6}{4}$ (Example 13-8). The 7th of ii^7 ($^6_5$) is repeated *in the same voice* to become the 4th of the $\frac{6}{4}$ chord before resolving down to the 3rd of V; thus, the $\frac{6}{4}$ effects a delay in the resolution of the dissonance. Both ii^7 and the cadential $\frac{6}{4}$ normally appear on a strong beat. The metric position of the $\frac{6}{4}$, however, is less variable than that of the ii^7, and we sometimes find ii^7 on a weaker beat than the $\frac{6}{4}$ that follows it. Example 13-8c illustrates possibilities for ii$^{\circ 6}_5$ moving into a V$^6_4$.

13-8 *Schubert, String Quartet, D. 804, III*

(a)



(b) reduction



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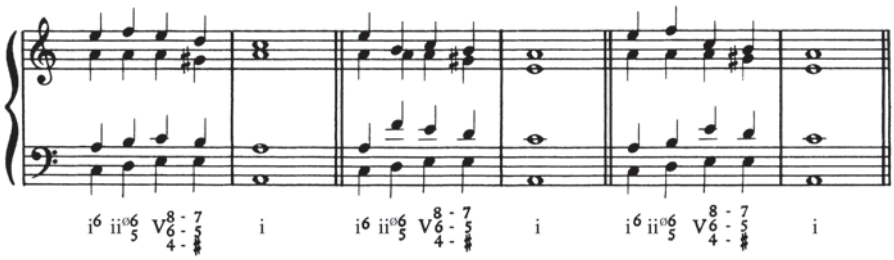
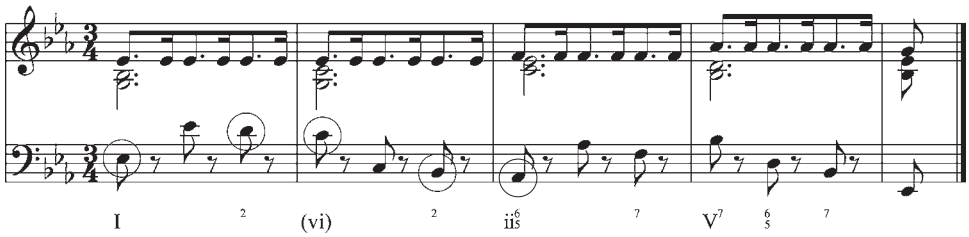
some possibilities in four voices

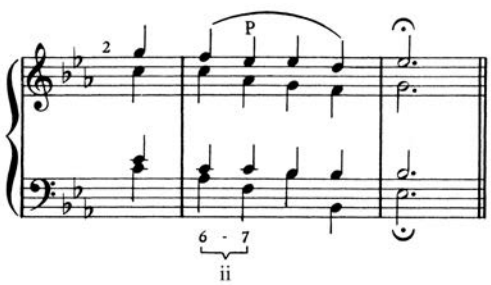
(c) *(d)* *(e)*

7. vi-ii$^{6}_{5}$. Any chord that can lead logically to ii can also lead to ii^{7} or its inversions as long as it allows the dissonance to enter correctly. A particularly frequent and idiomatic progression is I-vi-ii$^{6}_{5}$ with a bass descending in 3rds, which opens the Schubert passage in Example 13-1. We see an example of this progression in the opening passage of Cantata 140 by Bach (Example 13-9). Note the use of the passing tones that transform the bass motion in 3rds of I-vi-ii$^{6}_{5}$ into a stepwise line (E♭-A♭), a 5th-progression that highlights the close affinity between I and the intermediate ii$^{6}_{5}$ (see the circled tones).

13-9 *Bach, opening Cantata 140*



8. ii^{7} *Expanding Supertonic Harmony.* Composers often elaborate and extend supertonic harmony before moving on to V. In Example 13-10, from a Bach Chorale, ii first appears in $^{6}_{3}$ position (in another example of an intermediate pair). On the second beat of the bar, the bass moves down to the root; at the same time, the soprano brings in the 7th as a passing tone.

13-10 *Bach, Chorale 108*



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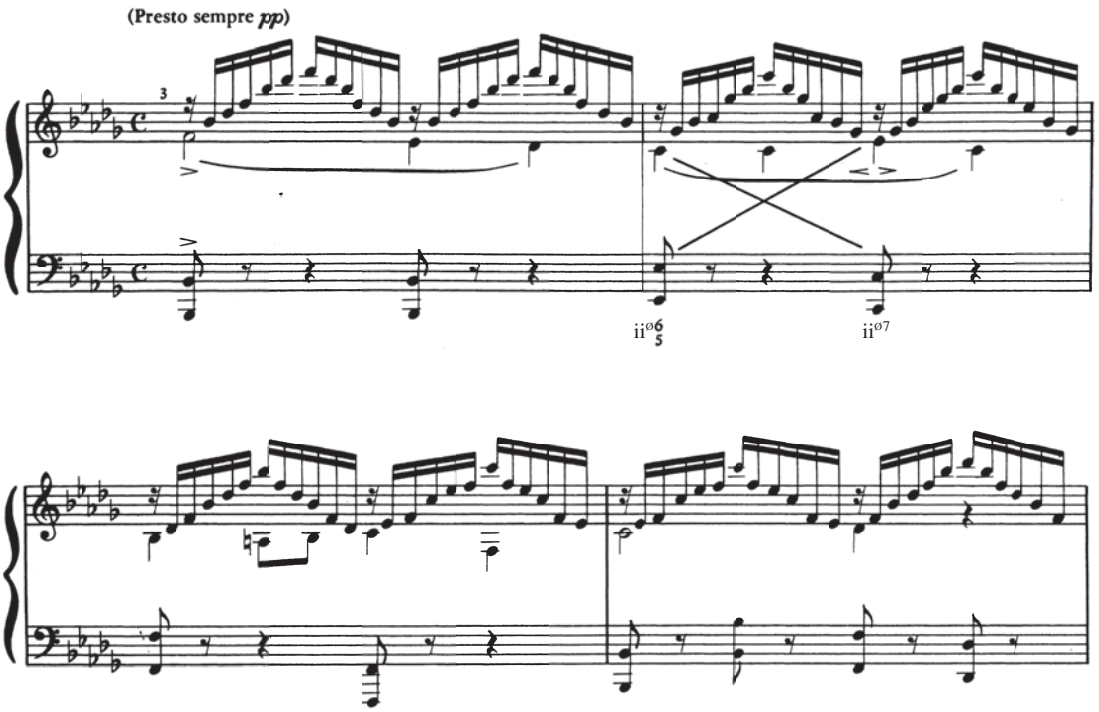
A phrase from a Mendelssohn Etude (Example 13-11) shows ii$^{ø}{}^{6}_{5}$ moving to ii^{ø7} with a voice exchange between the bass and melody (here the melody is in the middle, not at the top). Such motions between ii$^{6}_{5}$ and ii^{7} (in either direction and mode) occur frequently. In this excerpt, the 4th of the cadential $^{6}_{4}$ moves up to the 5th of V; we will discuss such "irregular" resolutions of the $^{6}_{4}$ in Unit 20.

13-11* *Mendelssohn, Etude, Op. 104/1*

In general, dissonant chords have far fewer possibilities for extended duration than consonant ones do. The supertonic seventh, however, is so strongly directed toward dominant harmony that it can be extended over fairly broad stretches of time without any loss to the music's coherence. In the latter part of Example 13-12, for example, the ii$^{6}_{5}$ spans 2½ bars compared with just half a bar for the V$^{6\text{-}7}_{4}$ to which it leads; also interesting is the voice exchange (between the two lowest parts), which leads to the fleeting ii$^{4}_{3}$'s functioning subordinately within the expanded ii$^{6}_{5}$.

*See Appendix II.

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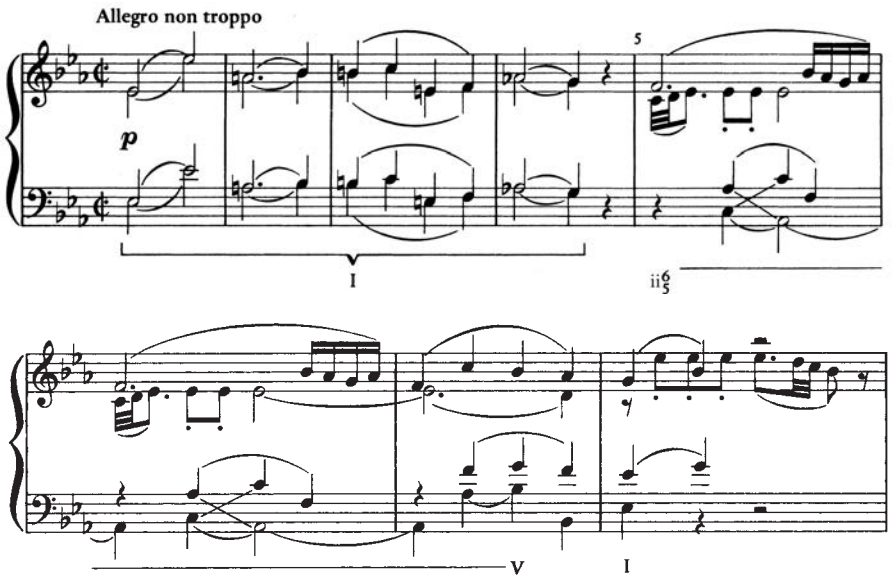
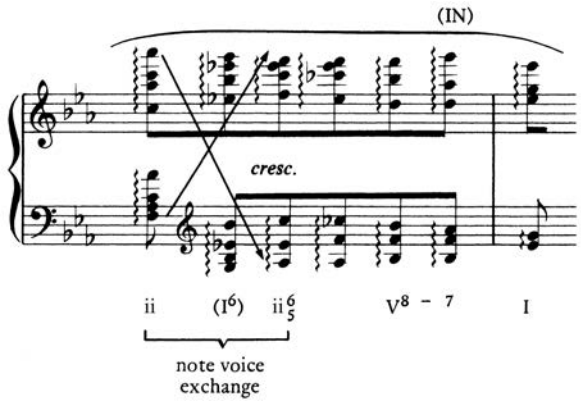
13-12 *Mozart, String Quartet, K. 428, I*

A passing (I^6) can move between ii^7 and ii^6_5 or, as in Example 13-13a, between ii and ii^6_5; compare the very similar progression discussed in Unit 10, Section 11. The reverse of this progression can also occur: from first inversion to root position (Example 13-13c).

13-13 *I^6 connects $ii^{(7)}$ and ii^6_5*

(a) Chopin, Etude, Op. 10/11



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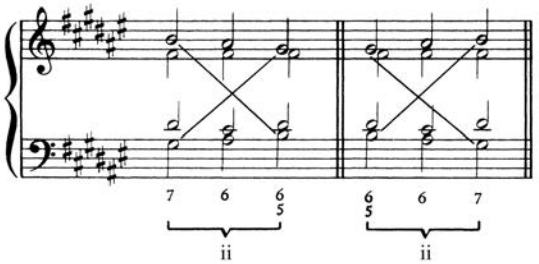
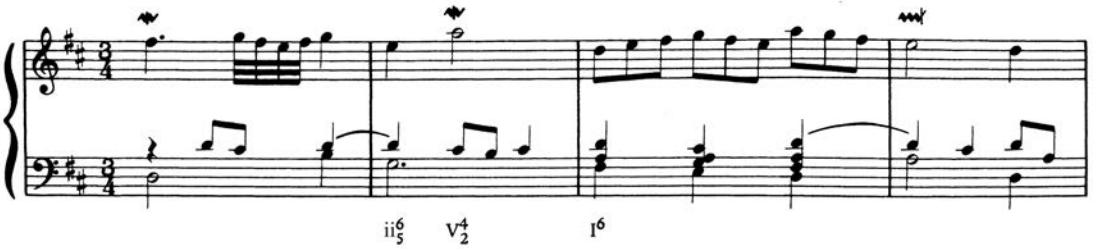
(b) (c)



9. Noncadential Uses of ii^7 and ii$^6_5$. The ii^7 and ii$^6_5$ chords can lead to noncadential as well as cadential dominants. The noncadential ones need not be in root position. A particularly characteristic progression contains ii$^6_5$ moving to V$^4_2$ over a common bass tone, as in Example 13-14. This progression is, in principle, the same as IV or ii^6 moving to V$^4_2$; if the bass tone of the $\frac{4}{2}$ receives an accent, it functions as a suspension.

13-14 *Bach, Menuet* *(from Partita No. 4 BWV 828)*



10. Other Inversions of ii^7. Of the two remaining inversions of ii^7, $\frac{4}{2}$ is the more important. It occurs very frequently in noncadential situations, especially at the beginning of a composition, where staying close to the tonic in the bass is often more appropriate than moving abruptly away from it. The ii$^4_2$ leads from I to V^6 or, more often, V$^6_5$. The opening of the first prelude from *The Well-Tempered Clavier I* is a familiar example (Example 13-15).

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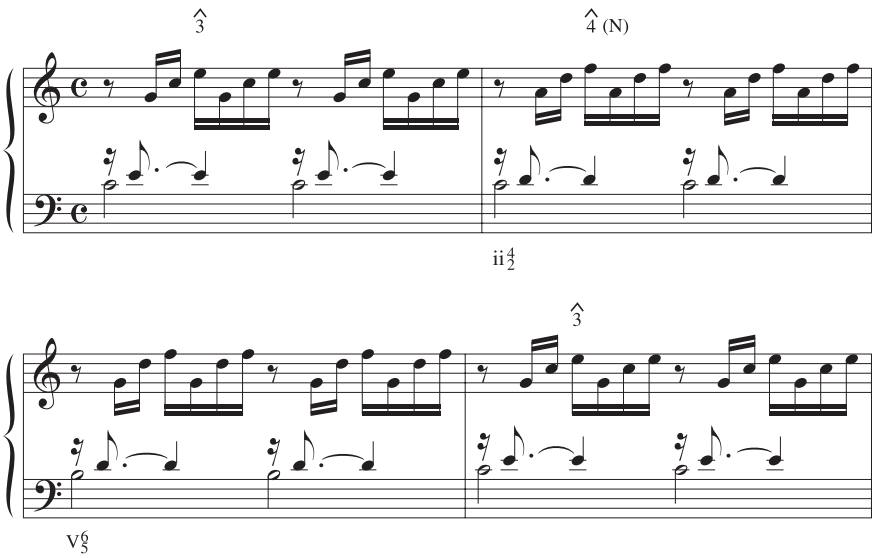
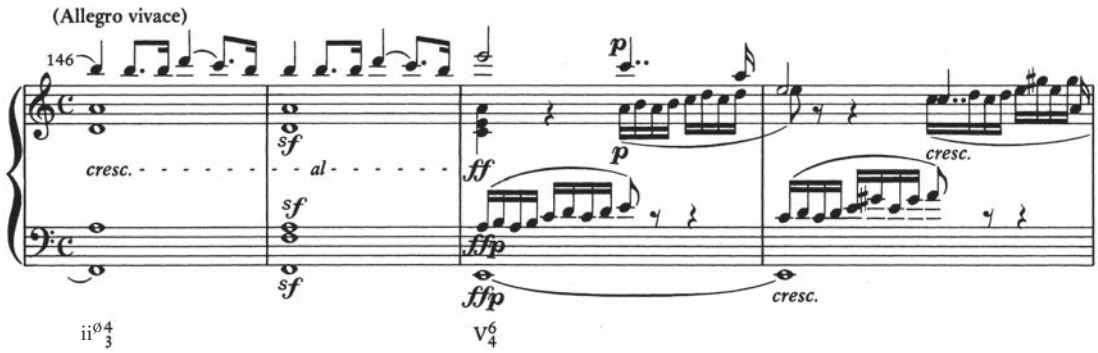
13-15 *Bach, Well-Tempered Clavier I, Prelude 1, BWV 846*



The ii$\frac{4}{3}$, like vi or IV^6, can be used to lead to V$^{(7)}$ from above. In Example 13-16a, ii$^{ø}\frac{4}{3}$ moves into a cadential $\frac{6}{4}$; the eventual resolution of the $\frac{6}{4}$ is not shown in the example. Note also in Example 13-16e how ii$^{ø}\frac{4}{3}$ leads to ii$^{ø}\frac{6}{5}$ in a voice exchange, a succession analogous to ii$\frac{6}{5}$ moving to ii^7 (as in 13-13c).

13-16 *ii$\frac{4}{3}$*

(a) Mendelssohn, String Quartet, Op. 13, I



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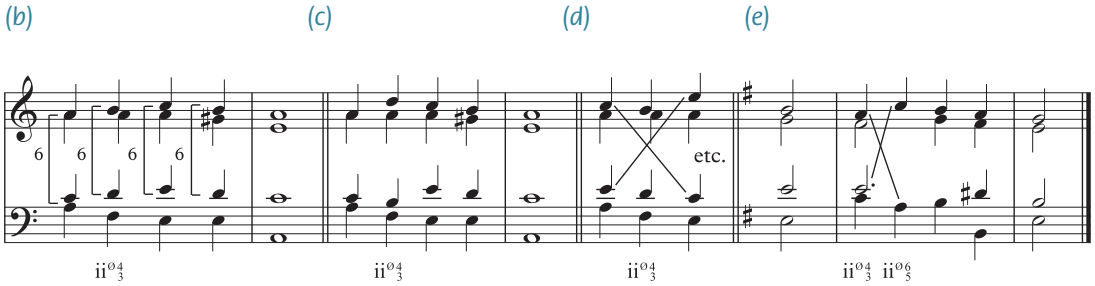
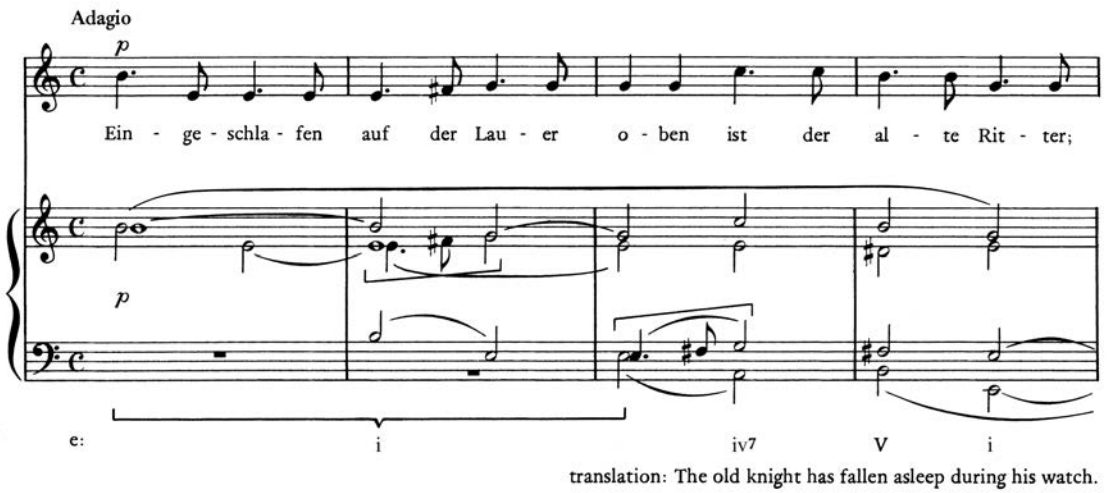


Subdominant Seventh Chords

11. IV^7. As we know, IV and ii are closely associated; they share two common tones and a common goal—V. It follows as a logical consequence that the seventh chords based on these triads—ii^7 and IV^7—will also have many features in common. The most important position of IV^7—the root position—differs by only a single tone from ii$^6_5$ and moves to V in a very similar manner. Thus, in Example 13-17, merely substituting an F♯ for the G in the iv^7 would transform it into a ii$^{\circ 6}_{5}$. The harmonic direction of the phrase would remain much the same, but the *sound* of the chord in question would change in a way easier to hear than to describe in words. And, in bars 2–3, Schumann's imitative counterpoint (the repetition of a melodic idea in different voices) would be impossible.

13-17 *Schumann, "Auf einer Burg"* *(from Liederkreis, Op. 39)*



translation: The old knight has fallen asleep during his watch.

IV^7 shows less resemblance to ii$^6_5$ when the 7th of the chord is in the soprano, for this tone ($\hat{3}$) is the only member of the chord that does not also belong to ii^7. As it happens, $\hat{3}$ occurs very frequently in the soprano; more

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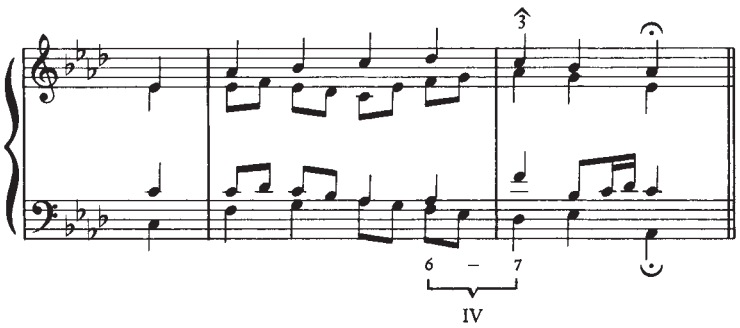
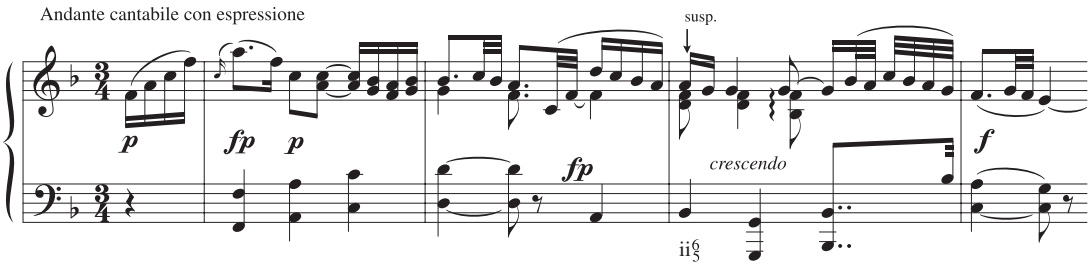
frequently than any of the other tones. This disposition gives us an alternative to the cadential $\frac{6}{4}$ when $\hat{3}$ moves to $\hat{2}$ at a cadence, as in Example 13-18. In this excerpt, IV^7 comes from a IV^6 in the previous beat; the 7th functions as a passing tone within an expanded subdominant.

13-18 *end of Bach's Chorale 117*



Sometimes what at first appears to be IV^7 is better understood as a ii$^6_5$ with a suspension. Example 13-19 illustrates.

13-19 *Mozart, Piano Sonata, K. 310, II*

As Example 13-17 has shown, IV^7 can appear on a weaker beat than the V to which it moves; however, it appears much more characteristically in strong metrical position, as in Example 13-18. The chord presents the problem of parallel 5ths in moving to V, especially when $\hat{3}$ occurs in the soprano. Examples 13-20a and b are the most common ways of avoiding 5ths. By the way, it is characteristic of IV^7 for its 5th to descend by step into the leading tone, thus moving to V in parallel 3rds, 6ths, or 10ths with its 7th ($\hat{3}$). For this reason, the voice leading of Example 13-20c, although not incorrect, is not often used. Some additional possibilities are demonstrated in Examples 13-20d–f. With IV^7 and its inversions (like ii^7), be sure to prepare and resolve the seventh in the same voice (PRSV). Also bear in mind that although the 5th of IV^7 is not dissonant, it has a strong tendency to move down by step to the leading tone, much like the 7th of ii^7 or 4th of the cadential $\frac{6}{4}$.

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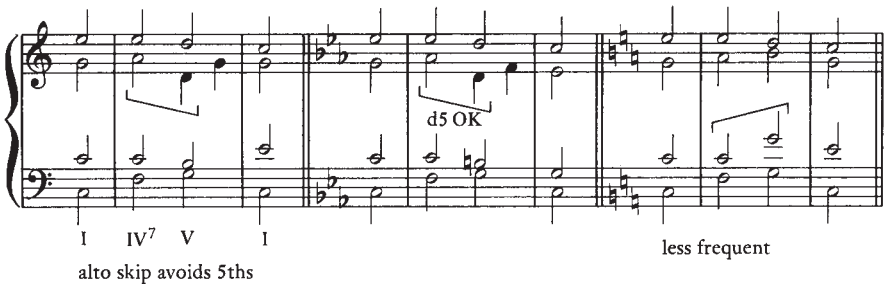
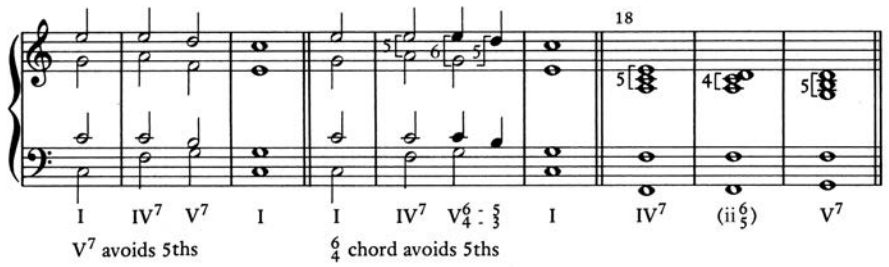
13-20 *IV^7-V, with $\hat{3}$ in the soprano*

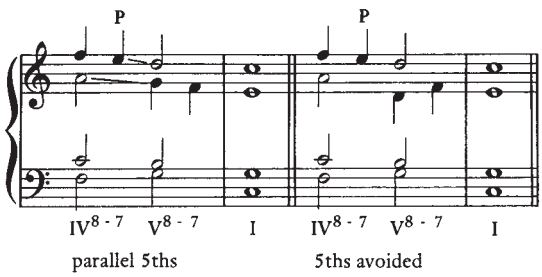
(a) *(b) in minor* *(c)*

(d) *(e)* *(f) Bach, early version of Prelude 1, WTC 1*



The threat of parallel 5ths so often posed by IV^7 also looms when $\hat{3}$ occurs as a soprano passing tone (8-7) over a progression from IV to V (Example 13-21). This passing motion occurs very often in the approach to a cadence, especially if $\hat{3}$ falls on a weak part of the measure or beat, thus excluding the possibility of the cadential $\frac{6}{4}$. The strategies shown in Example 13-20 will save this situation as well; also compare 13-18, where an accented passing tone in the soprano produces the IV^7.

13-21 *IV$^{8-7}$-V*

(a) *(b)*



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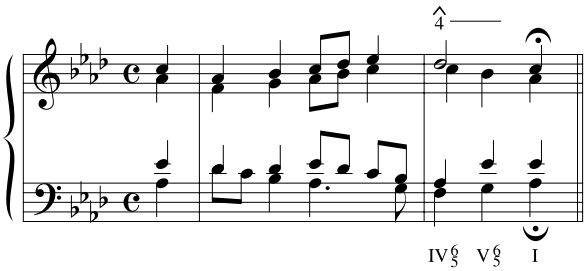
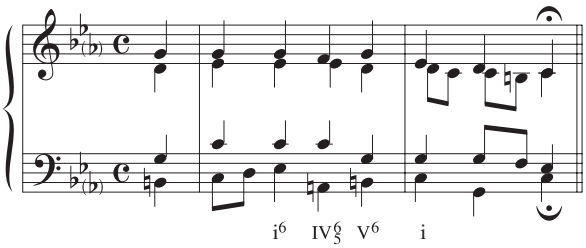
12. *Inversions of IV⁷.* Of the three inversions, the $\frac{6}{5}$ is by far the most important. Its most useful function is to lead to V^6_5 (less often V^6) and I with a stepwise ascending bass—a beautiful alternative to IV-V-I where a strong harmonic cadence is not needed (Example 13-22). This use of IV^6_5 is closely related to that of IV^6 described in Unit 12, Section 6. Unlike IV^6, however, IV^6_5 cannot move down to V because of the resulting parallel 5ths. In moving from IV^6_5 to V^6_5, a rather large leap will occur in one of the inner voices—a result of using complete chords and preparing and resolving correctly both dissonances (Example 13-22a).

13-22

(a) Bach, Chorale 117

(b) Bach, Chorale 100



13. *Phrase Overlap.* Look back at Example 13-1. The singer enters in bar 5 on a tonic chord that is both the initial harmony of a new phrase and the ending tonic of the piano introduction. Thus, the introductory phrase and the first phrase of the vocal line *overlap*. Note that we hear bars 1–4 as a four-bar rhythmic group or *hypermeasure* (see Unit 3, Section 8), but not as a complete *phrase;* the phrase, a unit of tonal motion, is complete only when we hear the goal tonic in bar 5.

POINTS FOR REVIEW

1. ii^7, IV^7, and their inversions move to dominant harmony. All positions are usually complete except for root-position ii^7 in major. The most important position is ii^6_5; ii^7 and IV^7 also occur frequently.
2. The motion to V is intensified by the dissonant 7th, which resolves downward by step. In four-part vocal writing, the 7th should be introduced either as a common tone—the most frequent possibility—or as a passing tone. The phrase "prepare and resolve in the same voice" (PRSV) will help you remember this principle.
3. ii^6_5 is better than ii^6 if the soprano repeats $\hat{2}$; ii^6 is better if the soprano moves $\hat{2}$-$\hat{7}$. The ii^6_5 provides better support for $\hat{6}$ than ii^6 does.

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4. In minor, the 7th of $ii^{ø7}$ improves the root-position sonority of ii^{o}.
5. Frequent progressions leading to a cadential dominant are I-vi-ii^{6}_{5} (or ii^{7}) and I-vi-IV^{7}. An important noncadential progression is ii^{6}_{5}-V^{4}_{2}.
6. A cadential $^{6}_{4}$ frequently delays the resolution of $ii^{6(7)}_{5}$ to V. The dissonant tone is held over in the same voice before resolving.
7. ii^{4}_{2} (most often coming from root-position I) leads to V^{6} or V^{6}_{5}. This progression is particularly frequent at the beginning of a piece. The ii^{4}_{3} can approach V from above.
8. The most important use of IV^{7} is to combine subdominant harmony with $\hat{3}$ in the soprano, but be careful of parallel 5ths when moving to V^{5}_{3} (see Example 13-20). In moving from IV^{6}_{5} to V^{6}_{5}, using complete chords and preparing and resolving dissonances correctly will result in a relatively large inner-voice leap. IV^{7} can also function as an alternative chord to ii^{6}_{5} with $\hat{1}$ or $\hat{6}$ in the soprano.
9. The most important inversion of IV^{7} is IV^{6}_{5} in the progression IV^{6}_{5}-V^{6}_{5}-I with ascending bass; compare IV^{6}-$V^{6}(^{6}_{5})$-I.

EXERCISES

1. Preliminaries. Write the following progressions, each in a different major or minor key.

Note. These progressions represent a summary of the techniques presented in this unit.

a. I-ii^{6}_{5}-$V^{6\text{-}5}_{4\text{-}3}$-I. The ii^{6}_{5} should have $\hat{2}$ in the soprano.
b. I-ii^{6}_{5}-$V^{8\text{-}7}$-I. The ii^{6}_{5} should have $\hat{6}$ in the soprano.
c. I-vi-ii^{6}_{5}-V-I. The ii^{6}_{5} should have $\hat{1}$ in the soprano.
d. ii^{6}_{5}-noncadential V^{7}-resolution.
e. I^{6}-ii^{7}-V^{7}-I.
f. I^{5}_{3}-ii^{7}-V^{7}-I.
g. I-$\underbrace{ii^{6}_{5}\text{-}ii^{7}}_{\text{Voice exchange}}$-$V^{6\text{-}5}_{4\text{-}3}$-I.
h. I-ii^{4}_{2}-resolution-I.
i. I-IV^{7}-V-I. IV^{7} should have $\hat{3}$ in the soprano.
j. I-IV^{6}_{5}-V^{6}_{5}-I. IV^{6}_{5} should have $\hat{4}$ in the soprano.

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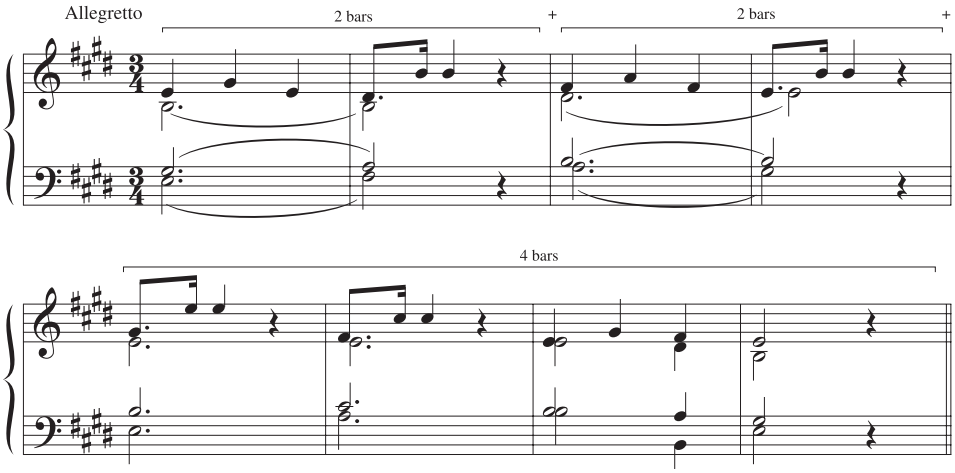
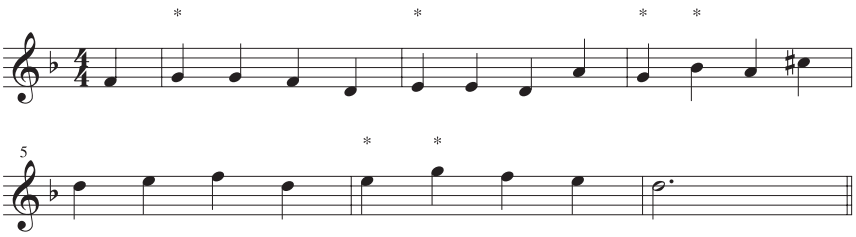
2. Write an 8-bar phrase that uses a supertonic or subdominant seventh before the cadential dominant. The phrase should be of the *sentence* type as illustrated in Example 10-12 and described in Unit 10, Section 18. Although you will find more possibilities for inventing motives when you begin to use non-chordal figuration (Unit 21), it is quite possible to create serviceable motives using only chordal tones, as the sample solution demonstrates. You will need, however, to use a distinctive rhythmic pattern for your motive, so this will be a time to begin to introduce more varied rhythms into your phrase writing. The basic motive, two bars long, repeats with different melody notes and chords in bars 3 and 4. Bars 5–8 contain a more continuous four-bar group with motivic fragmentation and an authentic cadence at the end.

3. Melody. Use ii^7 or its inversions for the starred chords, and remember to *prepare* the dissonance. In some places, a unison doubling of $\hat{1}$ will be useful, and at one point you might want to move the bass up a 7th or octave to keep a more normal vocal register. It is possible—and you should try—to use all four positions of ii^7.



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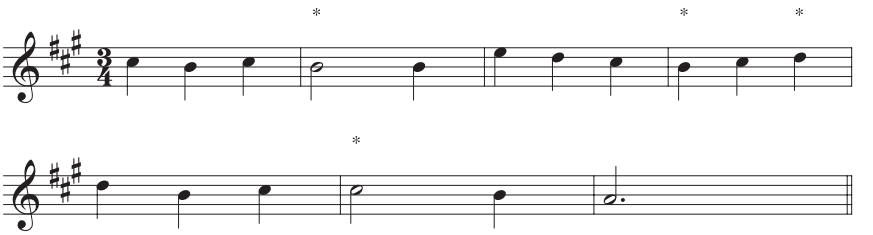
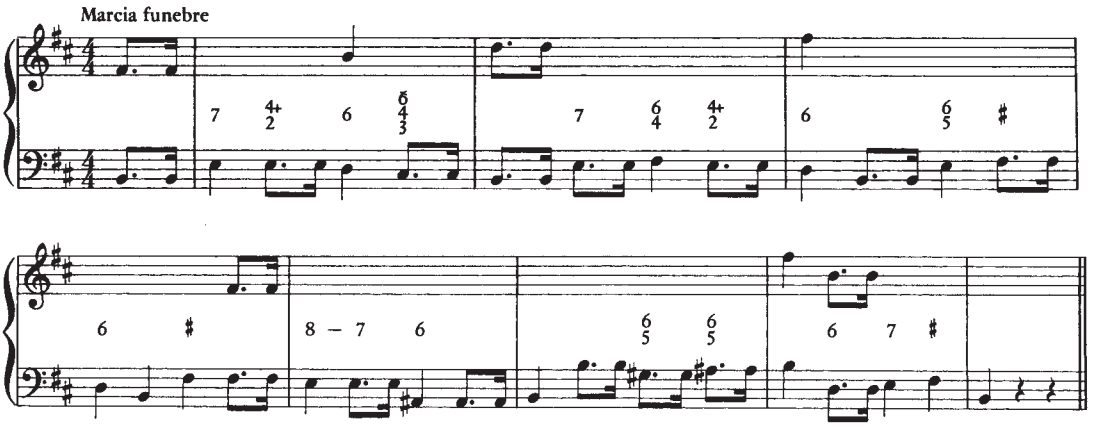
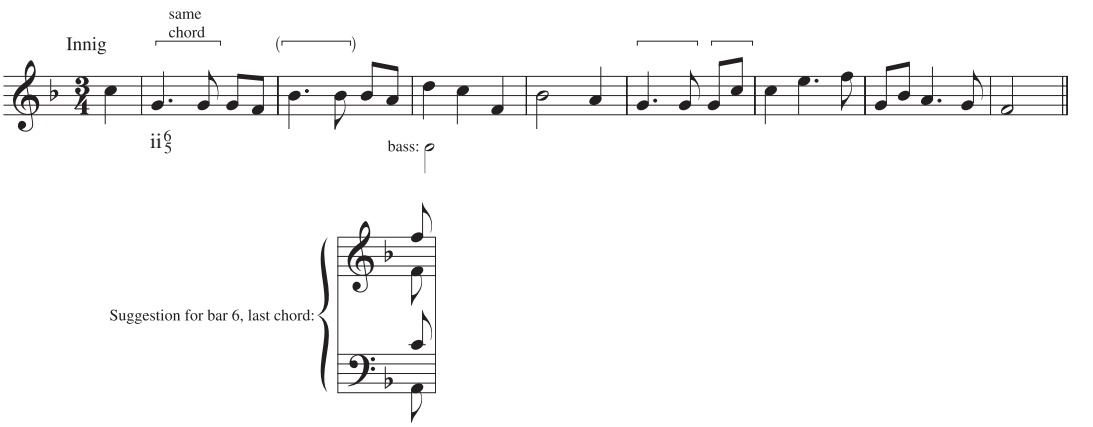
4. Melody. Use supertonic or subdominant 7ths or their inversions on the starred notes.



5. Figured bass. Don't change chords over repeated bass tones, and be sure all dissonances are approached and left correctly.

6. Melody. Use ii^6_5 or ii^7 wherever practicable.



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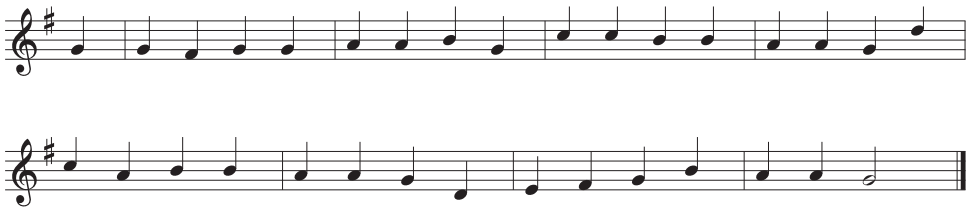
7. This melody by Thomas Tallis, often referred to as the Tallis Canon, contains many opportunities to use supertonic seventh chords. Identify soprano patterns that will accommodate ii^7-V-I progressions (ii^7 may be in inversion). Possibilities include: $\hat{1}$-$\hat{7}$-$\hat{1}$, $\hat{2}$-$\hat{2}$-$\hat{1}$, $\hat{4}$-$\hat{2}$-$\hat{3}$, $\hat{4}$-$\hat{4}$-$\hat{3}$, and $\hat{2}$-$\hat{2}$-$\hat{3}$. Consider also non-cadential forms of ii^7-V-I, as in bar 3. The pattern $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ is harmonized with the progression discussed in Unit 10, Section 10.



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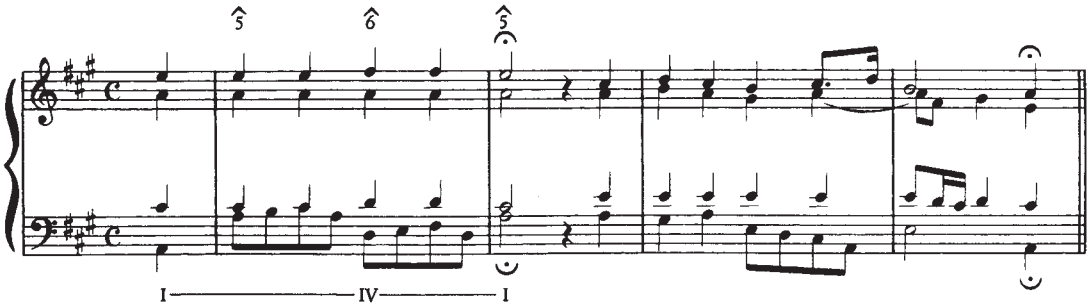
UNIT

14

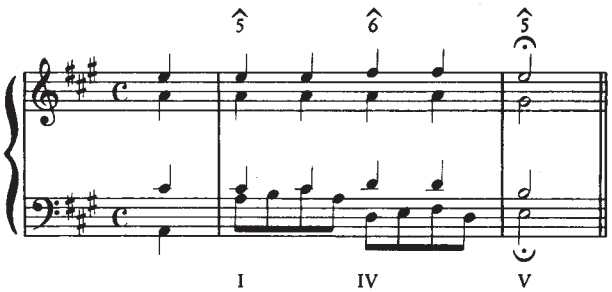
Other Uses of IV, IV^6, and vi

14-1

(a) Bach, Chorale 32



(b)



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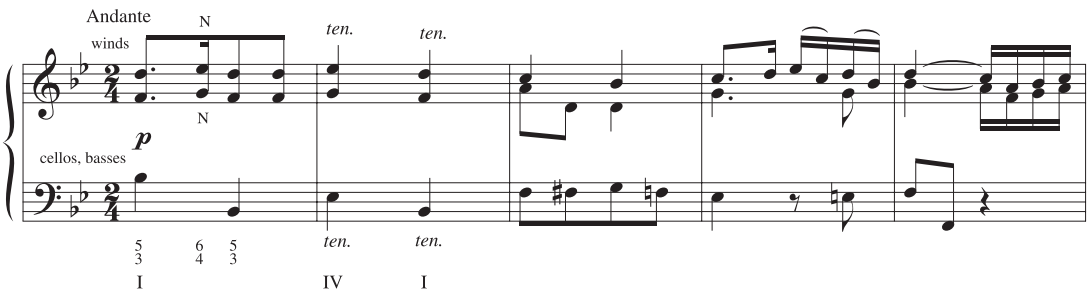
IV and IV⁶

1. I-IV-I Expanding Tonic Harmony. In the first two bars of Example 14-1a, we encounter a new and characteristic function of IV. Instead of leading to V as an intermediate harmony, this IV moves from tonic to tonic and provides us with a new, and often quite beautiful, way of expanding tonic harmony. As Example 14-1b demonstrates, it would be quite possible to harmonize the tune of 14-1a with I-IV-V, but the effect would differ greatly from that of Bach's setting; the temporary stop on V would introduce a much higher degree of tension. By extending tonic harmony without using V (or any chord containing the leading tone), I-IV-I constitutes an important source of variety; through contrast, it enhances the directional pull of dominant harmony once it arrives. Comparing the basses of I-IV-I and I-V-I (in A major, A-D-A and A-E-A), we discover that the latter unfolds the 5th of tonic harmony (A-E) whereas the former does not. For this reason, I-IV-I does not express the key nearly as strongly as I-V-I does and is thus a distinctly subordinate progression. I-IV-I generally occurs either before or after a progression in which the tonic is securely established by a strong dominant.

Our Bach Chorale illustrates a most important aspect of I-IV-I: it often arises from neighboring motions in two of the upper voices—$\hat{3}$-$\hat{4}$-$\hat{3}$ and $\hat{5}$-$\hat{6}$-$\hat{5}$—plus $\hat{1}$ held as a common tone from the tonic. Hence, IV works particularly well as a neighboring chord to I; in this context, IV does not function as an intermediate harmony. (ii also contains $\hat{4}$ and $\hat{6}$ as upper neighbors to $\hat{3}$ and $\hat{5}$, but the absence of a common tone makes it almost impossible to secure good voice leading for the progression I-ii-I.) Another important neighboring motion, $\hat{3}$-$\hat{4}$-$\hat{3}$, can also be supported by I-IV-I, as in the Brahms excerpt of Example 14-2. Notice that the motive D-E♭-D is stated twice in bars 1 and 2; in the second version, the neighbor E♭ is supported by its own chord, the IV of the I-IV-I progression. This compositional procedure is referred to as an *enlarged motivic repetition;* the enlargement results from the increased note values of E♭ and D in bar 2.

14-2 *Brahms, Variations on a Theme by Haydn, Op. 56a, Theme*

Although I-IV-I most often supports a neighboring motion in the soprano, other possibilities exist. In bar 5 of Schubert's "Des Fischers Liebesglück" (Example 14-3), the neighbors are in the middle voices while the melody stays around $\hat{1}$. Here the effect is that of an incomplete progression iv-i rather than the usual i-iv-i. Although the preceding bar ends with i, the entrance of the singer, together with the fermata and rest, makes the iv sound like a new beginning.

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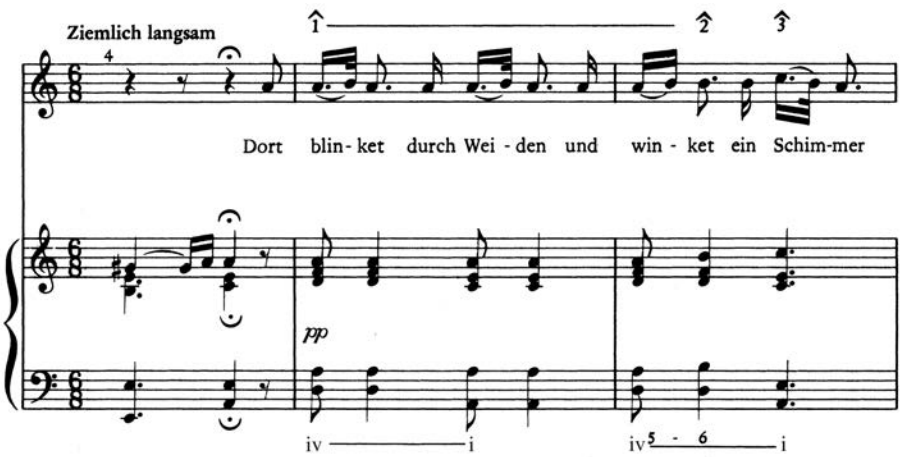
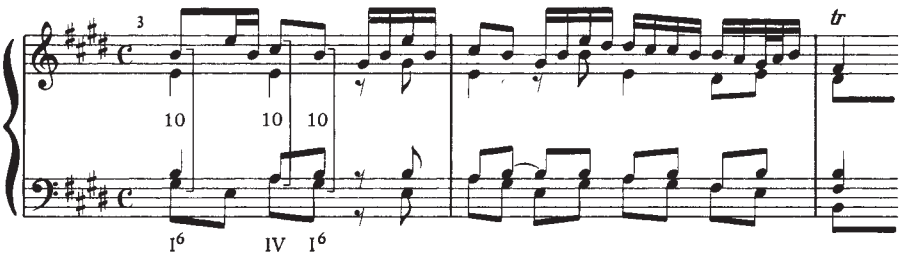
In bar 6, beat 2, the passing tone B transforms the iv into an apparent (ii^{o6}), which should be regarded as a contrapuntal derivative of iv (through the 5-6 technique) rather than representing supertonic harmony, for a root-position ii^{o} would never occur in this context (review the relation of ii^{6} to IV in Unit 10).

14-3 *Schubert, "Des Fischers Liebesglück"*

translation: Through the willows a glimmer winks and beckons.

In the progression I-IV-I, I^{6} can represent either or both of the tonic chords (in the minor mode also), frequently with 10ths between bass and soprano (Example 14-4).

14-4 *Handel, Air* *(from Harpsichord Suite No. 5)*

2. *Plagal Cadences.* The progression IV-I, used as a cadential formula, is called a *plagal cadence*. Because motion between IV and I lacks the key-defining power of the V-I progression, plagal cadences have a much more limited function than do authentic (V-I) cadences. They typically occur at the very end of a composition, as in the Amen at the close of a hymn. Emphasis on the subdominant can be very beautiful at the end of a piece because this chord (a 5th below the tonic) often generates a feeling of repose (Example 14-5). In such cases, the "finality" of the closing tonic has already been established by stronger tonal forces earlier in the piece. In the Chopin excerpt, the close on the major tonic results from modal mixture, which will be discussed in Unit 24.

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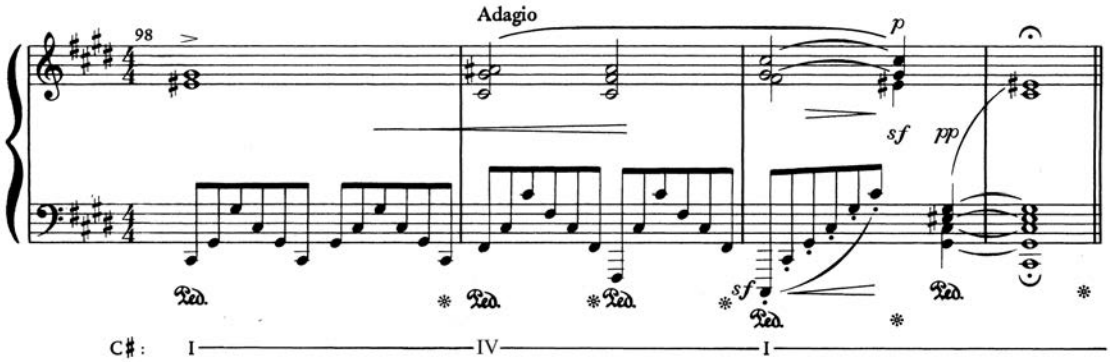
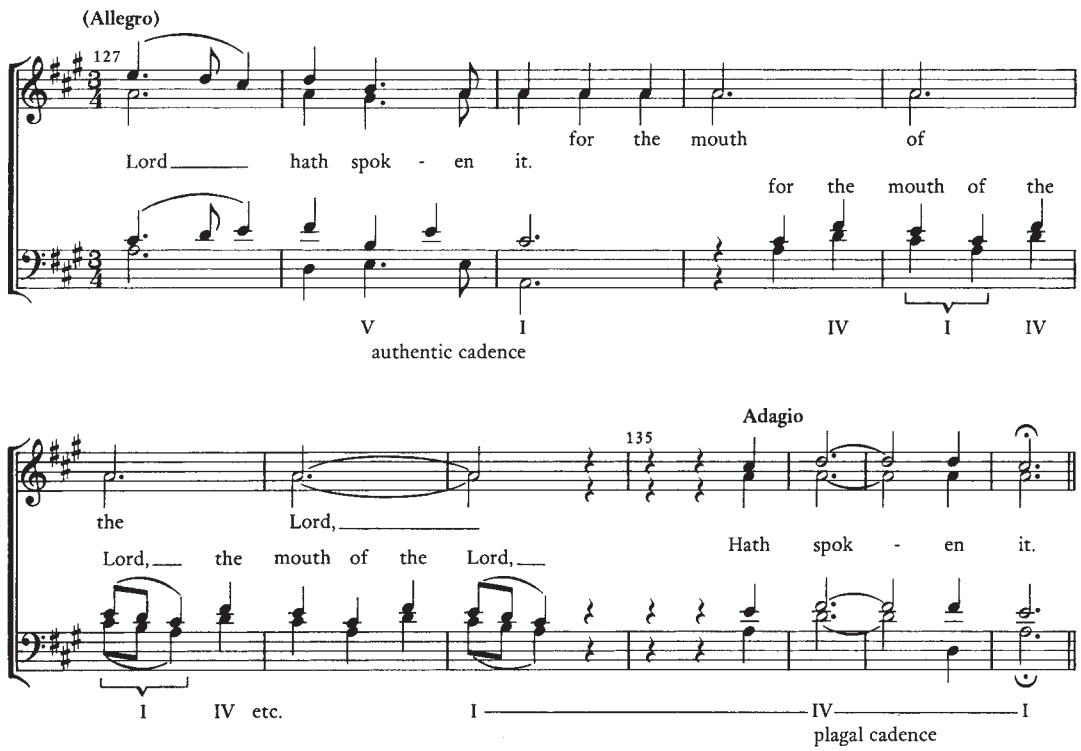
14-5 *Chopin, Nocturne, Op. 27/1*



Often, as in Example 14-6, a plagal cadence follows immediately on an authentic one and gives added emphasis to the tonic. Notice also the sustained tonic in the upper voice (bars 129–134); the soprano pattern Î-Î-Î (over I-IV-I) is particularly useful for extending the tonic of an authentic cadence. As we have seen (Examples 14-1 and 14-2), the motion I-IV-I frequently expands tonic harmony in non-cadential situations; we can refer to such motions as *plagal progressions*.

14-6 *Handel, "And the Glory of the Lord"* *(from Messiah)*



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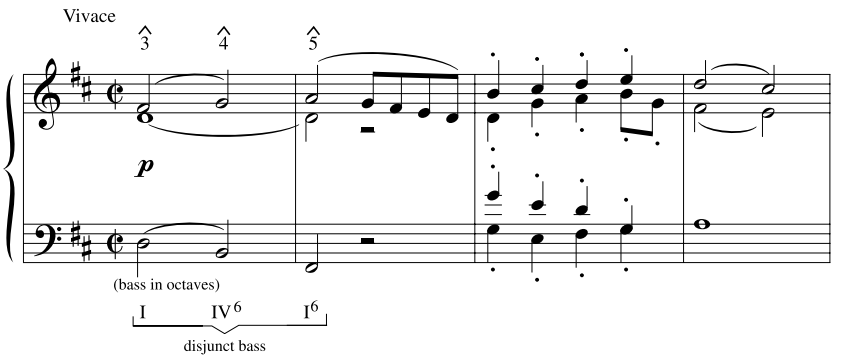
3. I-IV⁶-I⁶. IV⁶, like IV, can move within an expanded I, leading directly from one tonic to another. It does so in the context of a progression shown in Example 14-7, the beginning of the last movement of Haydn's "Clock" Symphony. In this very important progression, IV⁶ supports a passing tone ascending from $\hat{3}$ to $\hat{5}$; the bass moves from I to I⁶, not up a 3rd by step, as is usual, but down a 6th by leap.

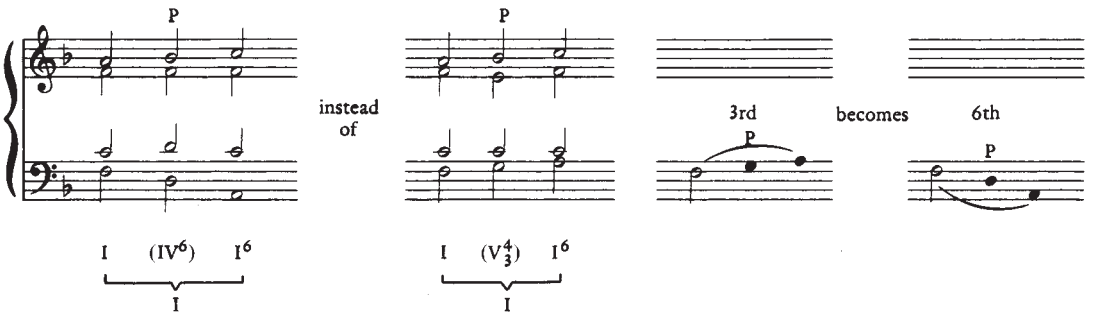
14-7 *Haydn, Symphony No. 101 ("Clock"), IV*



This characteristic function of IV⁶ can be most valuable, especially if a leading-tone chord (vii°⁶ or V^4_3) is not wanted as the support for $\hat{4}$ (Example 14-8a). Incidentally, IV^5_3 does not work very well in this situation; the root-position chord following a large leap in the bass creates too heavy an effect for the passing function of the chord (see Example 14-8b).

14-8 *I-IV⁶-I⁶*

(a)



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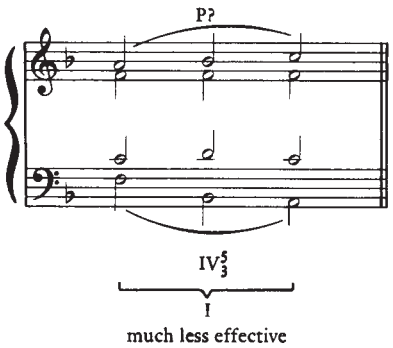
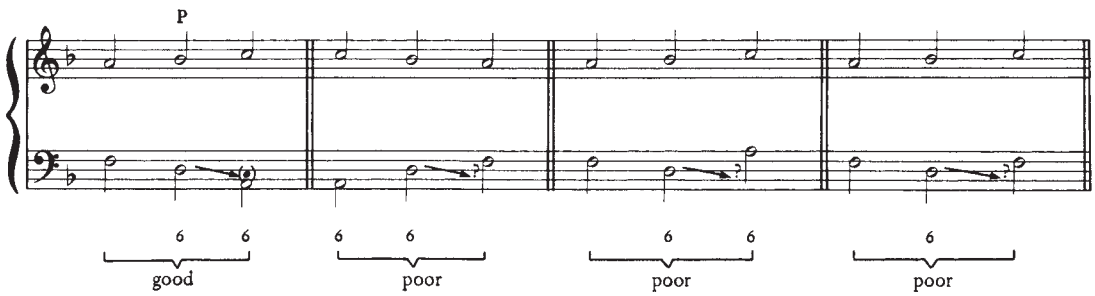
(b)



Motion between I and I⁶ with a stepwise bass works well in both directions (I-vii°⁶-I⁶ or I⁶-vii°⁶-I). But the progression I-IV⁶-I⁶ is not reversible; I⁶-IV⁶-I does not occur (Examples 14-9a and b). Nor will I-IV⁶-I⁶ appear with the bass rising a 5th from IV⁶ to I⁶. The reason is that $\hat{6}$ between two tonic chords is heard as upper neighbor to $\hat{5}$. Now if $\hat{6}$, as bass tone of IV⁶, leaps *down* to I⁶, we hear it resolving to an inner-voice $\hat{5}$, either actually present or implied. But if $\hat{6}$ leaps *up* (to either I or I⁶), it is left exposed and unresolved (Examples 14-9c and d). On the other hand, a leap of a 6th from IV⁶ down to I creates a needlessly discontinuous bass.

14-9 *IV⁶ supports P within tonic harmony*

(a) *(b)* *(c)* *(d)*



4. *IV⁶ as a Passing Chord within V.* Another function of IV⁶ is to move between the root position and the first inversion of dominant harmony: V-(IV⁶)-V⁶ or, more frequently, V-(IV⁶)-V$^6_5$. Example 14-10a illustrates how IV⁶ prepares the 7th of V$^6_5$ (Example 14-10b shows the minor mode). In this context, IV⁶ is not an intermediate harmony, because it is built on a passing tone functioning within an expanded dominant (indicated by the parentheses); in this respect, it is similar to (I⁶) moving between ii and ii$^6_5$ (review Unit 13, Section 8).

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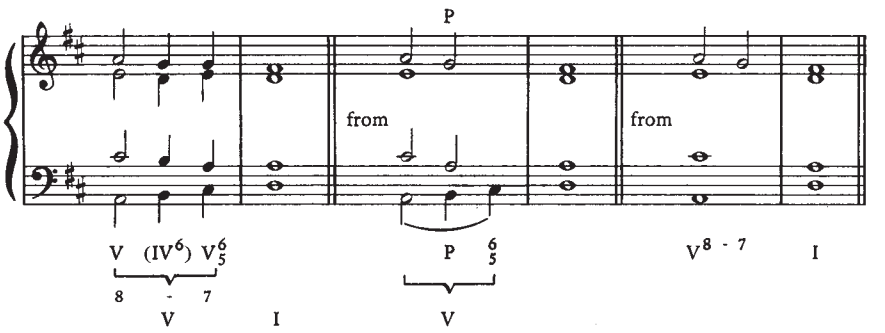
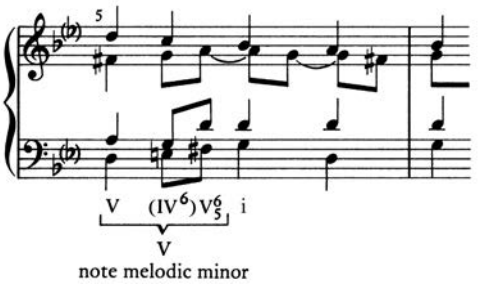
14-10 *IV^6 passing between V and V^6_5*

(a)



(b) Bach, Chorale 237



vi

5. *vi as a Substitute for I.* The vi and I chords share two common tones, $\hat{1}$ and $\hat{3}$. Therefore, vi can substitute for I where the latter might be expected—after V or V^7. This substitution can forestall excessive repetitions of I, as in an excerpt from Beethoven's "Waldstein" Sonata (Example 14-11a), in which the soprano descends from $\hat{4}$ (over V^7) to $\hat{3}$ (over vi), a frequent melodic pattern where vi substitutes for I. In addition, and most important, the vi of bar 15 carries the line *on* to the cadential ii^6 of the next bar—in contrast to the I at the end of bar 14, which creates less forward motion.

Another quotation from Beethoven (Example 14-11b) shows a different possibility for the top voice. Here, the soprano for V^7-vi is the same as for V^7-I two bars later—both end on $\hat{1}$. The two contrasting harmonizations of $\hat{1}$ create variety in a most beautiful way; in addition, using vi the first time prevents a cadential effect too early in the passage.

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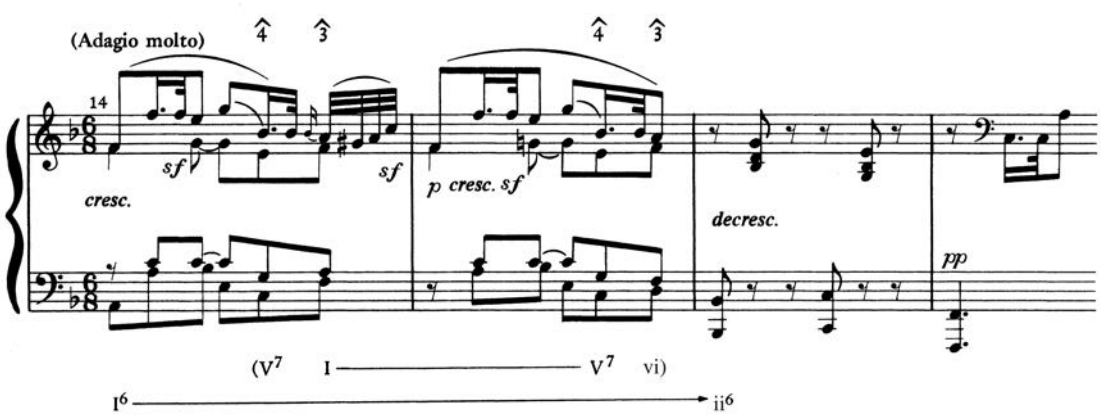
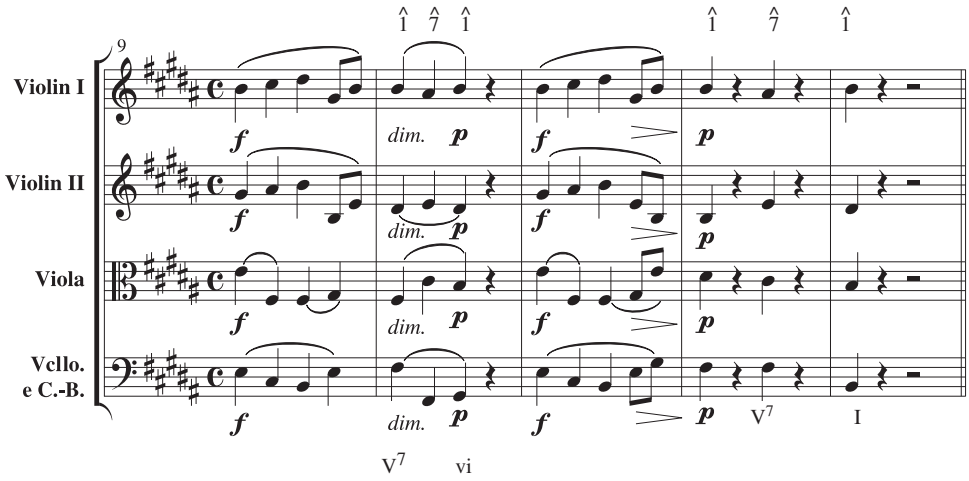
14-11

(a) Beethoven, "Waldstein" Sonata, Op. 53, II

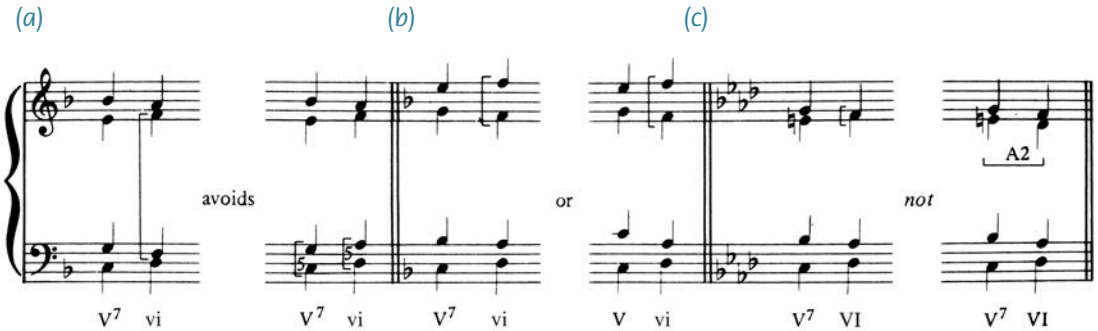


(b) Beethoven, "Emperor" Piano Concerto, Op. 73, II



In both Beethoven excerpts, the 3rd of vi is doubled. This is usual with V(7)-vi because the doubled 3rd allows $\hat{7}$ to move to $\hat{8}$ and prevents parallel 5ths or (in minor, V(7)-VI) an augmented 2nd (Example 14-12).

14-12 *doubling the 3rd of the submediant*



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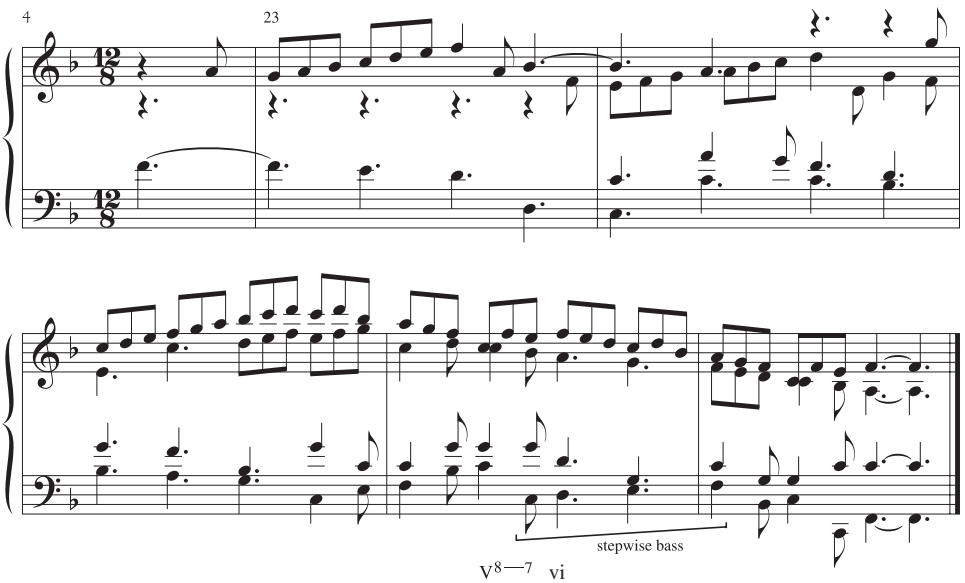
6. *Deceptive Cadences.* If a substitution of vi for I occurs where a cadence is expected, as in the quotation from Beethoven's Piano Concerto (Example 14-11b), we call the progression a *deceptive cadence* (V-vi or V^7-vi). The deceptive effect is strongest if the soprano is the same as in a perfect authentic cadence: $\hat{2}$-$\hat{1}$ or $\hat{7}$-$\hat{1}$. Deceptive cadences are inconclusive. They create no sense of repose: on the contrary, they produce a suspense that dissipates only when the total stability is regained, usually through an authentic cadence. By delaying resolution to a goal tonic, they intensify the feeling of resolution when that tonic eventually arrives. In Example 14-13, the deceptive cadence forms part of a rising bass progression $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$ that leads through V^6_5 to I. This progression will not work in minor because of the augmented 2nd between $\hat{6}$ and $\hat{\sharp 7}$, though a chromatic variant of it is quite feasible, as we shall see in Unit 26.

14-13 *Handel, Concerto Grosso, Op. 6/9, Gigue*

In the Handel excerpt, the deceptive cadence and the subsequent transition to I produce a five-bar phrase; without the detour to vi, the phrase would occupy a normal four bars. Note that the last bar, with its authentic cadence, repeats most of the preceding bar, but an octave lower. Such repetitions occur frequently following a deceptive cadence, though not always with the change of octave. In Example 14-14, the deceptive cadence provides the impetus for a varied repetition of the whole four-bar phrase in a kind of antecedent-consequent grouping. This is another frequent possibility.

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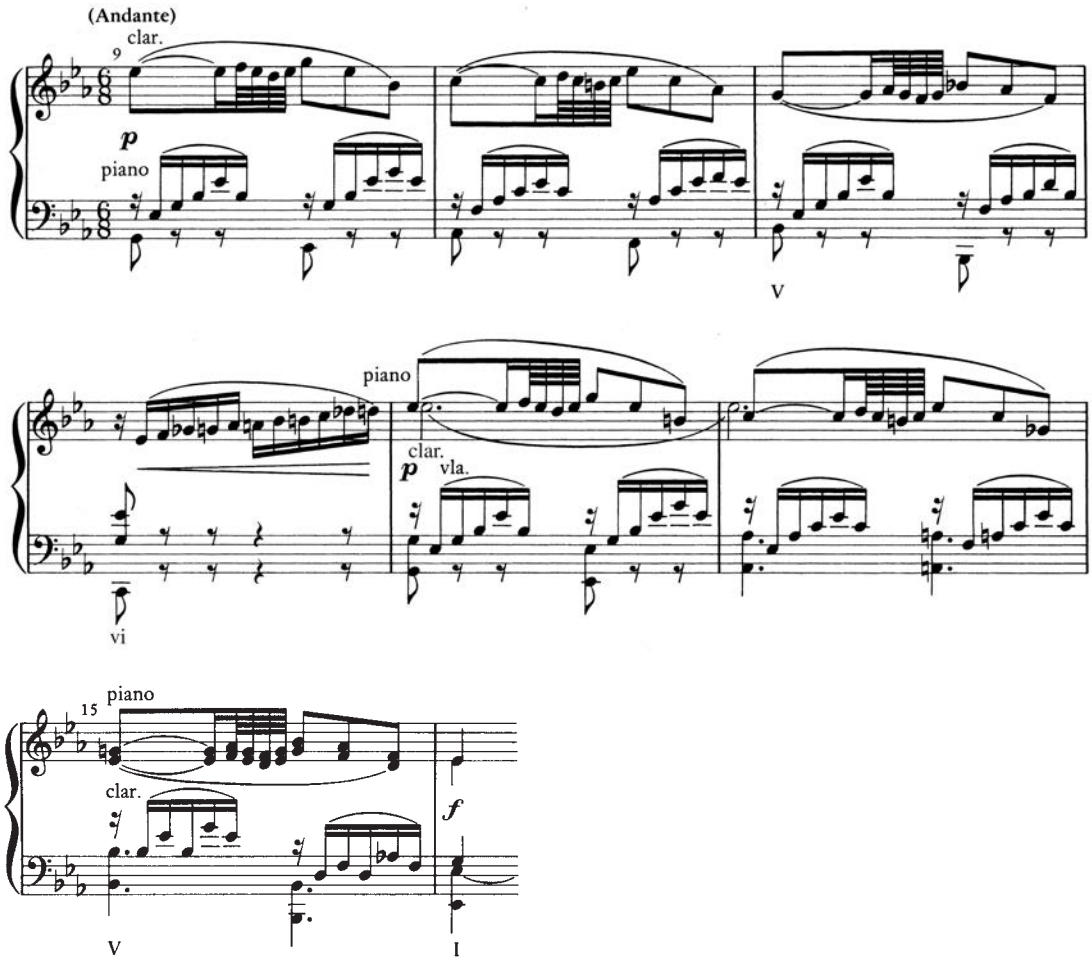
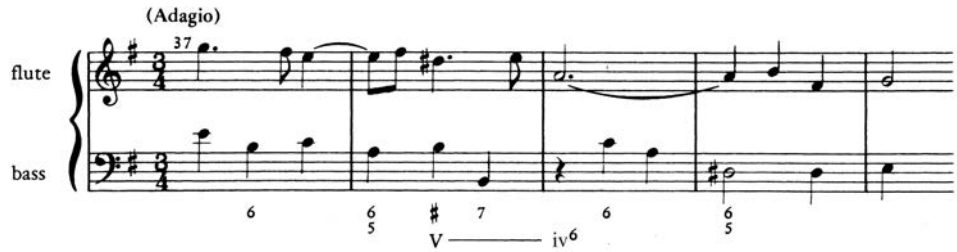
14-14 *Mozart, Trio, K. 498, I*



7. *Relationship between IV⁶ and vi.* As we noted in Unit 12, vi and IV⁶ are closely related chords that frequently appear in similar situations. Thus, IV⁶ will sometimes appear instead of vi at a deceptive cadence, where it has the effect of temporarily turning the 7th of V⁷ into a consonance, as in Example 14-15. Similarly, vi will sometimes replace IV⁶ in leading down a 6th from I to I⁶ (Example 14-16; compare 14-7).

14-15 *Handel, Sonata No. 5 for Flute and Thoroughbass*

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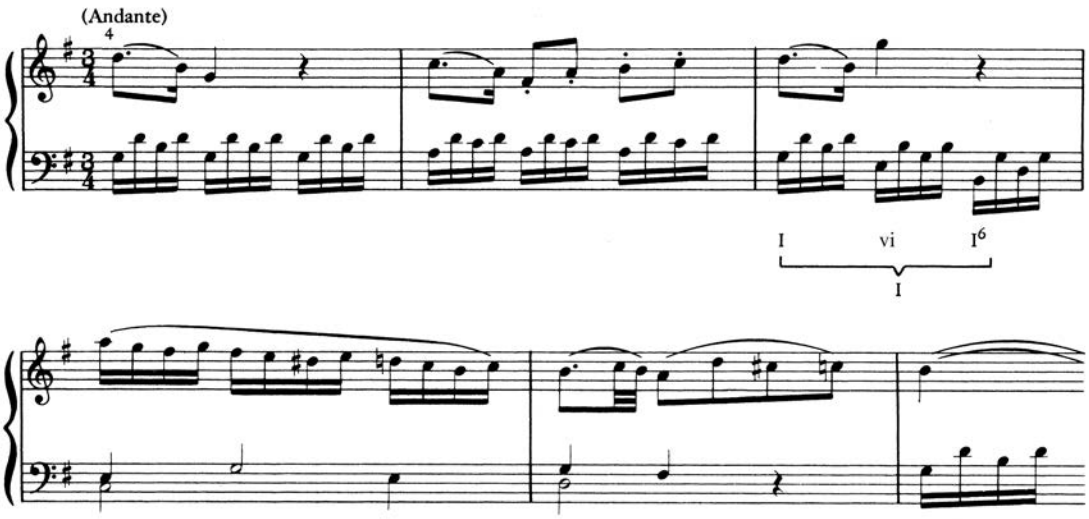
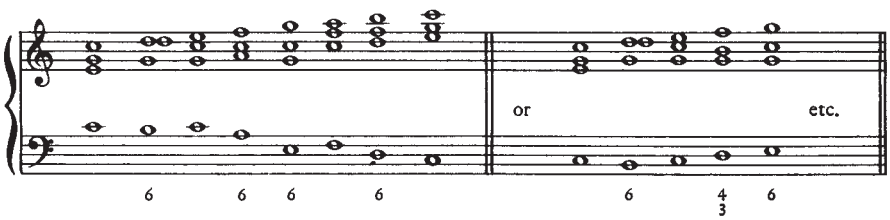
14-16 *Mozart, Piano Sonata, K. 545, II*

As we saw in 14-13, vi, like IV^6, can function as a passing chord between the root position and first inversion of V, but only in major. (Review Example 12-14.)

8. *Harmonizing Ascending Scales.* If you memorize the standard patterns for harmonizing scales shown in Examples 14-17 and 14-18—and, in particular, if you learn to play them in all keys—you will find it much easier to harmonize melodies, to realize figured and unfigured basses, and, eventually, to improvise at the keyboard. In these two examples, pay special attention to the treatment of $\hat{6}$ and $\hat{7}$ in minor.

14-17 *harmonizing the ascending scale in the soprano*

(a) major



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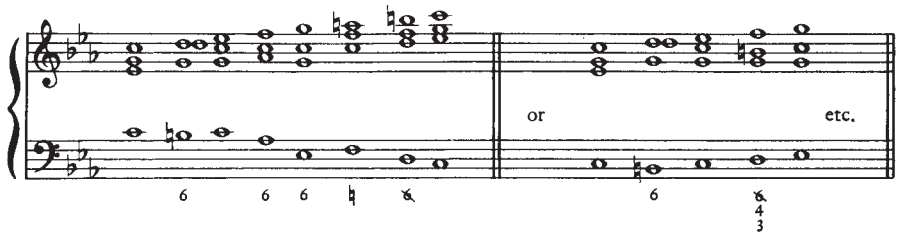
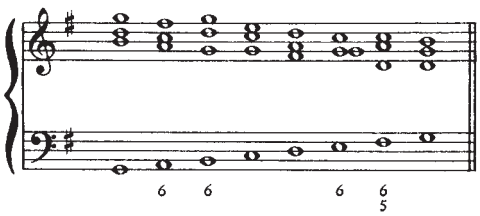
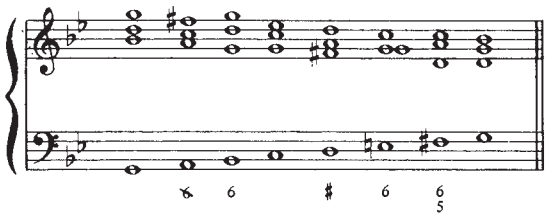
(b) minor



14-18 *harmonizing the ascending scale in the bass*

(a) major



(b) minor

As is true with most formulas, the standard scale harmonizations offer only limited insight into the music of great composers. To be sure, the textbook patterns will sometimes appear in a composition. But the meaning—the inner groupings and the relation to larger context—will depend largely on the individual character of the passage. Thus, in the last movement of Haydn's Symphony No. 98 (Example 14-19), we find a passage very similar to that in Example 14-17a except that I^6, instead of I^5_3, appears at the beginning and end. As it happens, this "exception" is one of the most significant aspects of the passage, which follows an extended V^7 with the 7th very prominent in the soprano (bars 64–71); the 7th then moves to the bass (bars 74–75), necessitating a resolution to I^6. That is why the scale in the soprano is harmonized in such a way that I^6, rather than I, represents tonic harmony.

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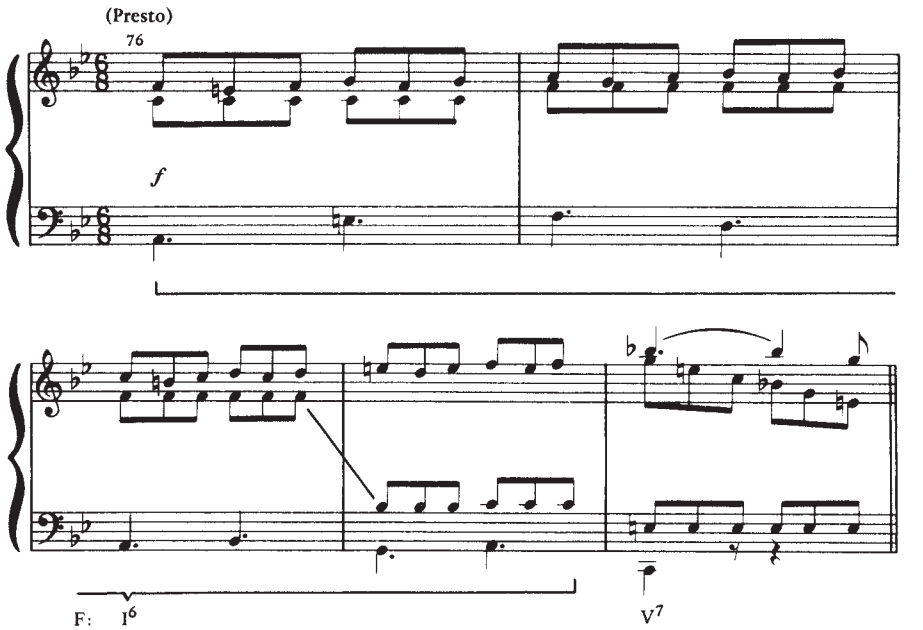
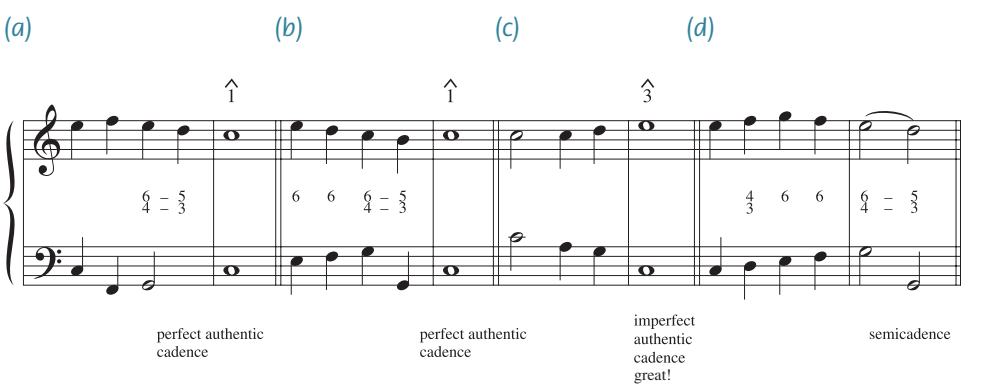
14-19 *Haydn, Symphony No. 98, IV*



Summary of Cadences

This is a good time to review the cadences you have learned so far. It will be useful for you to play these examples (Example 14-20) at the keyboard in (preferably) all major and minor keys, except, of course, for the Phrygian cadence, which can be done in minor only.

14-20



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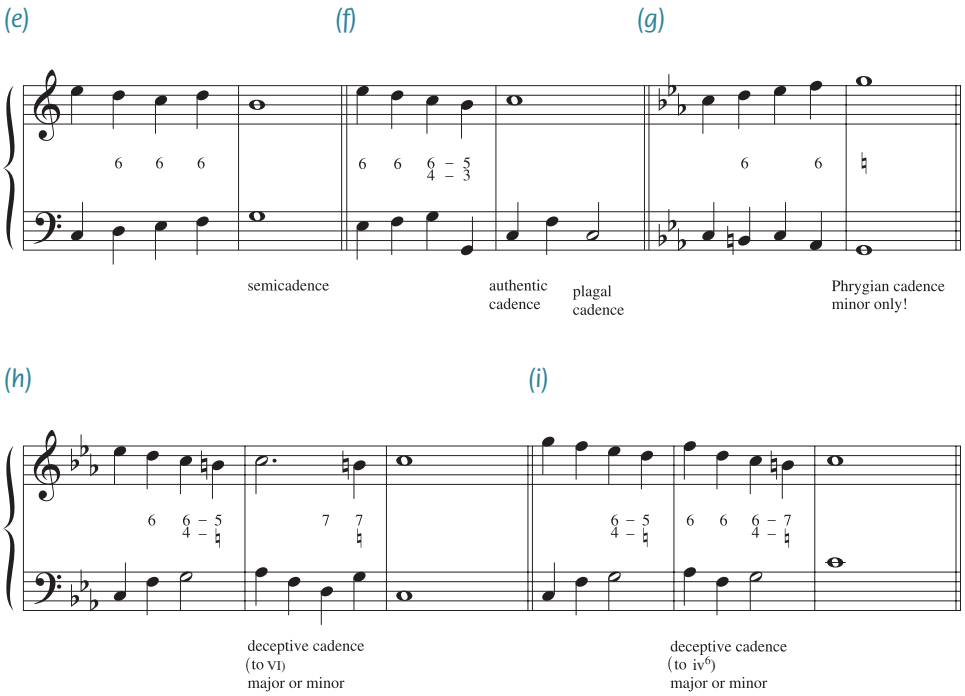
POINTS FOR REVIEW

1. I-IV-I expands tonic harmony, usually with a neighboring figure ($\hat{5}$-$\hat{6}$-$\hat{5}$ or $\hat{3}$-$\hat{4}$-$\hat{3}$) in the soprano. I^6 can replace either or both of the root-position tonic chords. This progression also works well in the minor mode (i-iv-i).
2. IV-I is the plagal (or Amen) cadence. It usually occurs at the end of a composition or section, often following an authentic cadence. A sustained $\hat{1}$ in the top voice (over I-IV-I) is quite common. You should memorize three soprano patterns used quite frequently with plagal progressions: $\hat{3}$-$\hat{4}$-$\hat{3}$, $\hat{5}$-$\hat{6}$-$\hat{5}$, and $\hat{1}$-$\hat{1}$-$\hat{1}$.
3. IV^6 leads from I *down by skip* to I^6 with the melodic line $\hat{3}$-$\hat{4}$-$\hat{5}$. IV^6 also connects $V^{(7)}$ and V^6 ($\frac{6}{5}$) as a passing chord.
4. vi substitutes for I following V or V^7, preventing excessive repetition of I. In the progression $V^{(7)}$-vi, the 3rd of vi should be doubled.
5. $V^{(7)}$-vi forms a deceptive cadence if it occurs where an authentic cadence is expected (in the minor mode, $V^{(7)}$-VI). This cadence is strongest with $\hat{2}$-$\hat{1}$ or $\hat{7}$-$\hat{8}$ in the soprano.
6. IV^6 and vi are sometimes interchangeable:
   a. IV^6 can replace vi in a deceptive cadence: $V^{(7)}$-IV^6.
   b. vi can replace IV^6 in moving down from I to I^6: I-vi-I^6.
   c. vi can replace IV^6 as a passing chord between $V^{(7)}$ and $V^6(\frac{6}{5})$, in major only.

EXERCISES

1. Preliminaries.
   a. Write a phrase with a final tonic that is extended through a plagal cadence.

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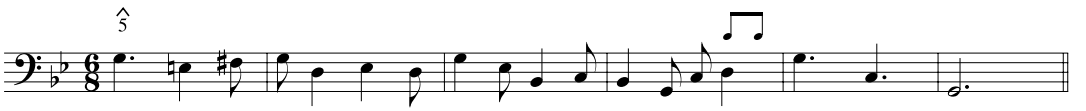
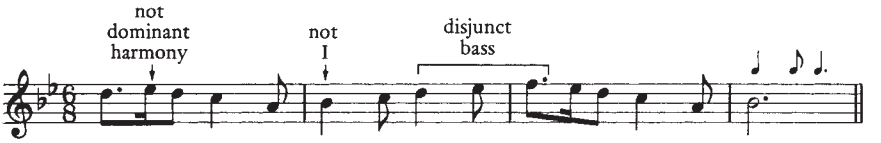
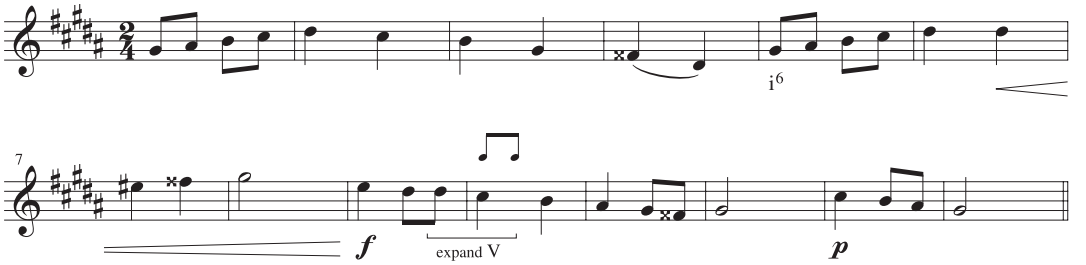
b. Write an antecedent-consequent group whose first phrase ends with a deceptive cadence and whose second phrase—mostly a repetition of the first—leads to a perfect authentic cadence.

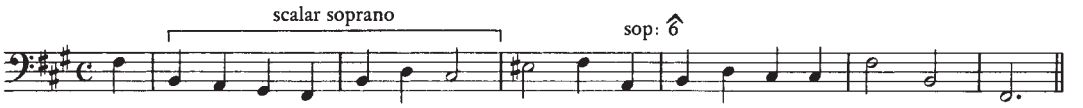
2. Unfigured bass.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

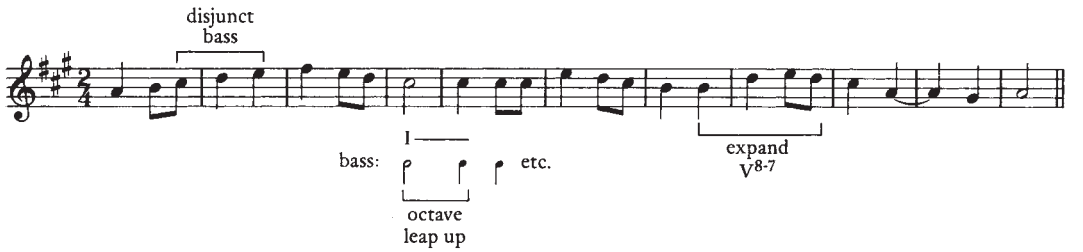
3. Melody. Set in keyboard style (overlaps are allowed).



4. Melody. Set in keyboard style. There should be one deceptive cadence.



5. Unfigured bass.

6. Melody.



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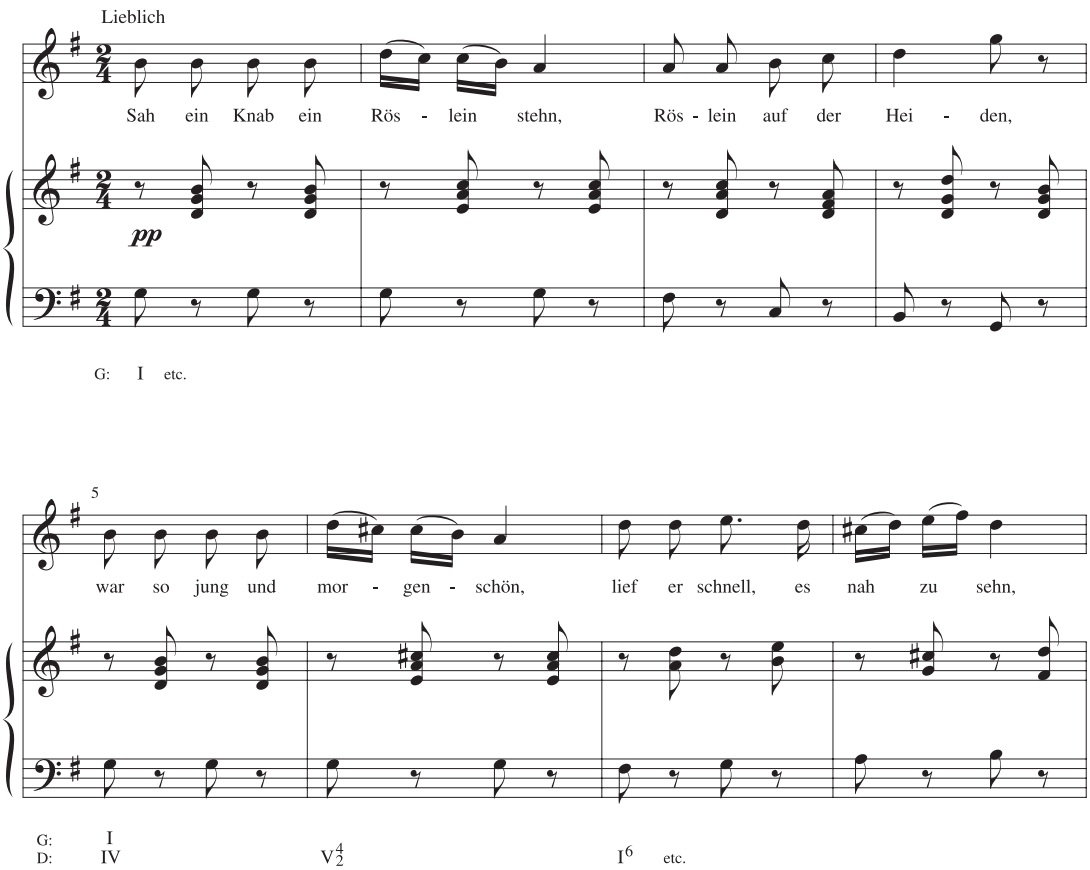
UNIT

15 V as a Key Area

15-1 *Schubert, "Heidenröslein"*

Lieblich
Sah ein Knab ein Rös - lein stehn, Rös - lein auf der Hei - den,
pp
G: I etc.
5
war so jung und mor - gen - schön, lief er schnell, es nah zu sehn,
G: I
D: IV
V$_2^4$
I^6 etc.

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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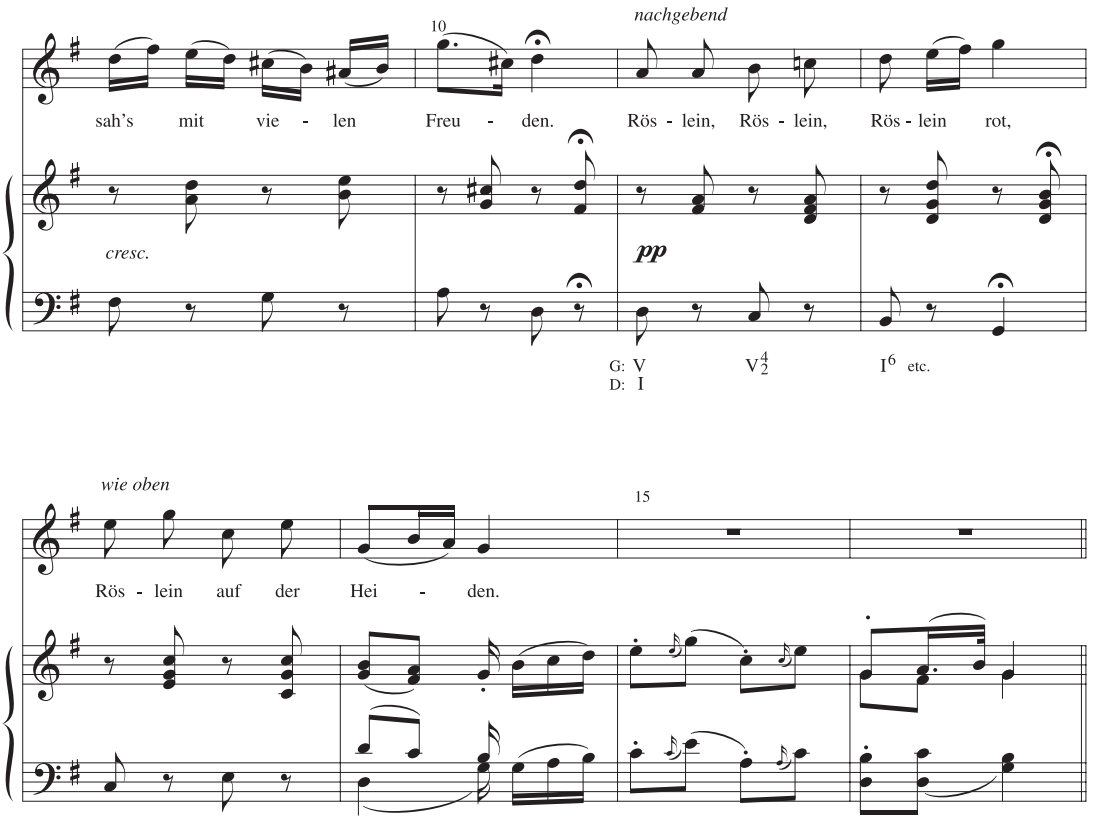
nachgebend
10
sah's mit vie - len Freu - den. Rös - lein, Rös - lein, Rös - lein rot,
cresc.
pp
G: V V$_2^4$ I^6 etc.
D: I
wie oben
15
Rös - lein auf der Hei - den.

translation: A boy saw a wild rose, as fresh and lovely as the morning. He ran to it quickly to gaze on it closely with great joy. Little rose, little red rose, little wild rose.

Tonicization and Modulation

1. Nontonic Key Areas. So far, all the chords we have studied result from harmonic progressions or voice-leading connections that are under the immediate control of the tonic triad. Most compositions, however, contain at least one passage that centers temporarily on a tone other than the tonic. In that new *key area,* we hear another scale degree as $\hat{1}$ and another chord as the tonic triad. In Schubert's familiar song "Heidenröslein" (Example 15-1), the first phrase (bars 1–4) gravitates to the tonic G. The second phrase starts out as though it will simply repeat the first one. In its second bar (bar 6), however, a single change—C♯ instead of C♮—shifts the music temporarily into the orbit of D major. Until the end of the phrase, the progression of chords and the motion of the melodic line direct themselves to D. In making a chordal analysis of the phrase, we would count the D triad, not the G, as I; D has for the moment taken over the function of tonic. The Schubert song illustrates *a new and most important way to emphasize nontonic chords: they can simulate the effect of a tonic and expand into temporary key areas;* in the Schubert song, the key area of the second phrase is the dominant.

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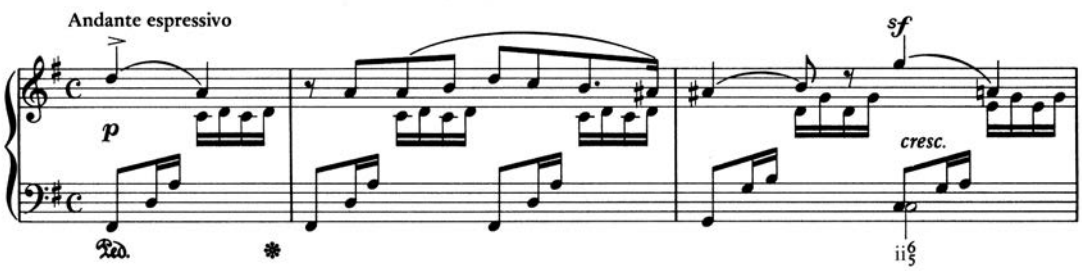
2. **Temporary Tonics.** We have two terms for the process of making scale degrees other than $\hat{1}$ sound temporarily like tonics: *tonicization* and *modulation*. The first implies a temporary "tonic" of brief duration; the second implies a longer-lasting and more significant change. The two terms overlap to a considerable extent; we cannot precisely determine where one stops and the other begins. From a broad perspective—one that takes in the composition as a whole—even the most firmly established key areas function as offshoots of the main key, if the composer has conceived the piece as a unified whole. In the Schubert song, which is only 16 bars long, it scarcely matters whether we think of the area in D as a large-scale tonicization of the dominant, or a brief modulation to it. This is often the case in very short pieces where there is hardly room for an extensive modulation.

3. **Tonicizing (Modulating to) V in Major.** Tonicizations and modulations can be organized around any scale degree and around any major or minor triad. Because V is the chord most closely related to I, pieces in major move to V as a key area more readily than to any other scale degree—one more instance of the controlling influence that the tonic-dominant relationship exerts on tonal structure. (Pieces in minor tend to move to III, as we shall see in the following unit.) In this unit we shall study only tonicizations of, and modulations to, V in major; however, most of the techniques that we shall discuss are easily applicable to other tonicizations and modulations.

4. **Applied Chords.** The most frequent element of tonicization is the *applied dominant or leading-tone chord*—a chord that simulates the effect of a V or vii° and "applies" it to a harmony other than the tonic. In Example 15-2, the C♯ in the bass of bar 3 functions like a leading tone to the D that follows. The motion from C♯ to D suggests the intense effect of $\hat{7}$-$\hat{1}$ in D major, and the chord containing the C♯ is equivalent to V^6_5 in D. The principle exemplified here is that any major or minor triad can be preceded by its own V or vii°. In bars 3–4, we do not hear a real change of key—not even a temporary one; establishing a key requires time and musical content, not just one or two chords. What occurs here is the enrichment of the tonic key through the temporary intensification of a nontonic element. For a moment, this element (the V) acquires the color of a tonic chord without assuming its function. Note in Example 15-2 that V^6_5 of V differs from the preceding ii^6_5 by only one note ($\hat{4}$ becomes $\sharp\hat{4}$). As we will see in later units, chords including raised $\hat{4}$ often relate to preceding diatonic intermediate harmonies (we can refer to the altered chords as *chromatic intermediates*). In the Mendelssohn passage, the intermediate part of the phrase begins in bar 2 and is extended—and intensified through the temporary leading tone C♯—until V arrives in bar 4.

15-2 *Mendelssohn, Songs Without Words, Op. 62/1*

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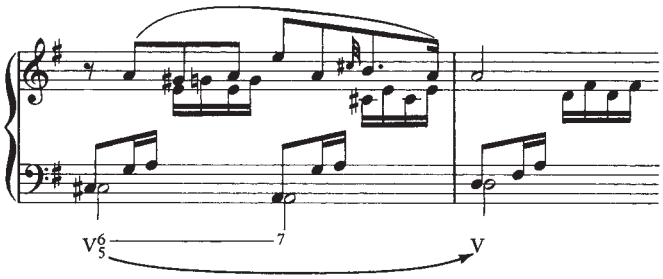
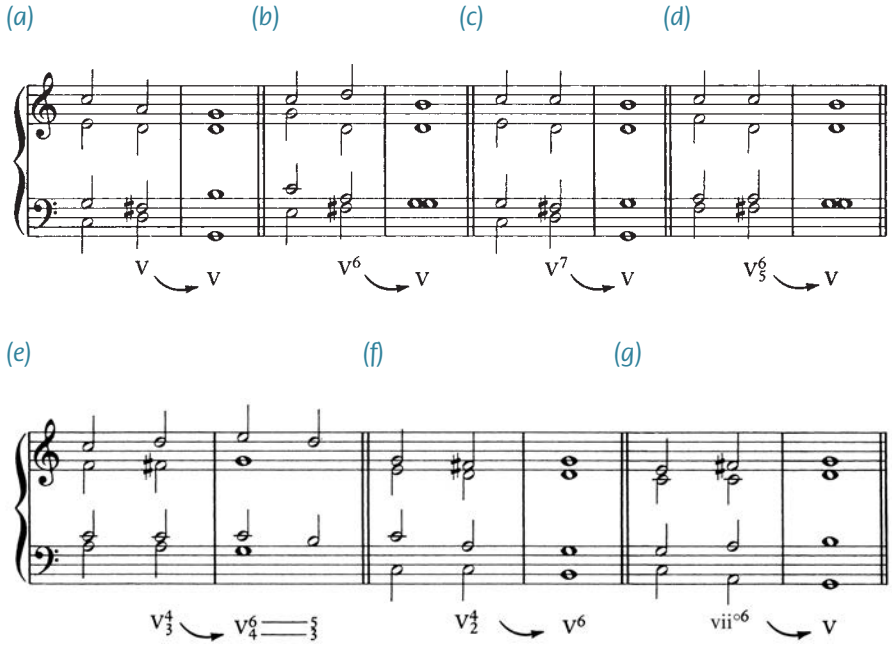


5. $\sharp\hat{4}$ as Leading Tone to V. All chords applied to V contain $\sharp\hat{4}$; this chromatic element is the tone that represents the dominant's leading tone. Notice that when we discuss the leading tone of V in a general way we use the sharp before the $\hat{4}$ (or any number indicating a scale degree) to indicate raising the pitch a chromatic half step. When we refer to a specific tone in a passage, however, we use the accidental appropriate to the key: thus, B♮ is $\natural\hat{4}$ in F major but C♯ is $\sharp\hat{4}$ in G major. (The sharp before the $\hat{4}$—or any number indicating a scale degree—raises the pitch a chromatic half step: $\sharp\hat{4}$ in C = F♯; $\sharp\hat{4}$ in F = B♮.) Example 15-3 shows the applied chords to V that we can now use: V and its inversion V^6, V^7 and all of its inversions, and vii^{o6}. In speaking of these chords, we would refer to them as V^4_2 of V, vii^{o6} of V, and so forth; in the chordal analyses of this and subsequent units, a short curved arrow is used to replace the word "of." Raising $\hat{4}$ to $\sharp\hat{4}$ is what transforms the chords into applied V's or vii°'s. Note: *Because $\sharp\hat{4}$ functions (temporarily) as a leading tone, it must not be doubled.*

15-3 *chords applied to V*

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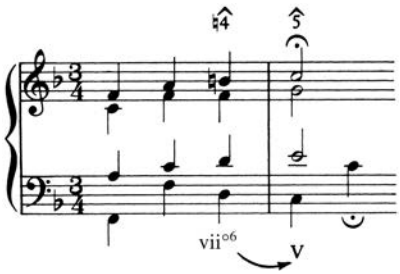
Among the most typical usages involving chords applied to V are those that emphasize dominant harmony (often at a cadence) by means of a rising chromatic progression, $\hat{4}$-$\sharp\hat{4}$-$\hat{5}$, in the bass. Our Mendelssohn excerpt (Example 15-2) illustrates precisely this technique; note the beautiful effect of the chromatic line C-C♯-D, embellished by the bass's skip down to A at the end of bar 3. In the Mendelssohn, ii^6_5 is altered to become V^6_5 of V. Another point of departure for V^6_5 is IV (Example 15-3d) or ii^6; with both, as with ii^6_5, $\hat{4}$ leads through $\sharp\hat{4}$ to $\hat{5}$. Note that a cadential $^6_4$ can embellish the goal V.

Very frequently, chords applied to V harmonize $\sharp\hat{4}$ in a top-voice line rising from $\hat{3}$ to $\hat{5}$; this device makes possible a particularly effective semicadence. Try playing Example 15-4 and substituting IV^6 (the equivalent diatonic chord) for the applied $\text{vii}^{\circ 6}$ (all you have to do is to play a B♭ instead of the B♮). The IV^6 moving to V sounds fine, but the V wants to continue moving; it doesn't sound nearly as much like a cadential goal as it does with the applied $\text{vii}^{\circ 6}$.

15-4 *Bach, Chorale 234*

In Unit 26, we shall take up other usages of chords applied to V, along with the remaining applied chords.

6. ***Larger Tonicizations and Modulations.*** The principle of the applied dominant is still at work in even the most firmly established and abiding tonicizations of V; no temporary tonic can long function as such without the participation of its own dominant. Often that dominant precedes the new tonic and helps to prepare it. At other times, the new tonic sets in without such preparation and is confirmed later by its dominant. But though the V of V is a necessary part of creating a key area around the dominant, it cannot effect the modulation or tonicization without help from other musical elements. Even a fleeting passage centered on V will require a progression of several chords, often culminating in a cadence. A long-lasting modulation will also frequently include a melodic line that gravitates toward a cadential pattern (such as $\hat{3}$-$\hat{2}$-$\hat{1}$ or $\hat{1}$-$\hat{7}$-$\hat{1}$), a change in motivic design, and a punctuation in the music's flow that helps set off and emphasize the new tonic.

7. ***The Pivot Chord.*** Occasionally composers will introduce their new key area abruptly. More often, however, they will effect a smooth transition into the new key. An important way of achieving this transition is by using a *pivot chord,* a chord that occurs in both keys. Example 15-5 contains a particularly clear example of a pivot chord. We first hear the C-major chord of bar 2 as I in the home key. But the continuation makes us reinterpret in retrospect the meaning

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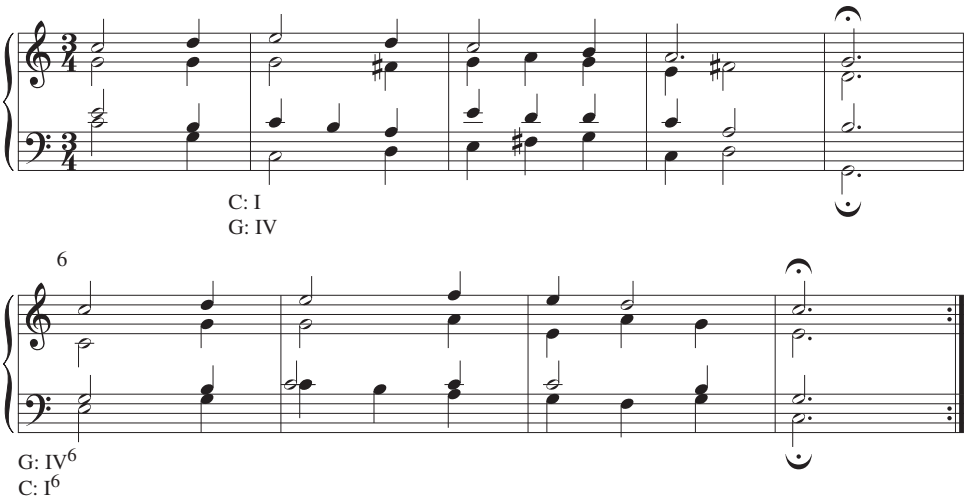
of this chord: in relation to what follows it, the C chord functions as IV in G major. Notice the numerous occurrences of F♯ (♯$\hat{4}$) that subsequently signal the modulation to V. In bars 4–5, the modulation is confirmed with an authentic cadence in G major. Because it effects the transition from one tonal area to the other, the C chord is the "pivotal" event of the modulation. In the following bar, the first of the second phrase, another C-major chord represents both IV^6 in the key of the dominant and I^6 in the home key of C major, which is reestablished by the end of the second phrase. Hence, the same chord serves as the pivot for both the modulation to V and the motion back to I. (Why *must* Bach double the 6th of the cadential $\frac{6}{4}$ in bar 8?)

15-5 *Bach, Chorale 298, "Weg, mein Herz, mit den Gedanken"*



Among the most effective pivot chords are those that would normally lead into the V chord of the new key—ii and IV of the dominant being preeminent in this category. Although vi in the main key, becoming ii in the key of the dominant, makes a particularly smooth transition, it is not the only possibility. In Examples 15-1 and 15-5, it is the main tonic triad itself that becomes the pivot (in bar 5), for subsequent events lead us to reinterpret it as IV in the dominant key. In identifying the pivot chord, remember that a likely candidate is the chord just before the first dominant in the new key.

8. Modulation through $I^{5\text{-}6}$. A technique with far-reaching consequences for modulation is illustrated in the two excerpts of Example 15-6, drawn from the first movement of a Mozart Sonata. In the first four bars (Example 15-6a), a harmonic framework I-ii-V^7-I is expanded by a 5-6 motion over the opening tonic. Although one might think of the G-minor chord thus produced as vi^6, the force of tonic harmony is so great that one tends instead to hear simply a sustained I modified by melodic motion, the 5-6 destabilizing the tonic and giving it a tendency to move forward. In addition, the common tone with ii produces smoother voice leading and averts parallel 5ths. Example 15-6b, from slightly later on in the movement, begins similarly but uses a V^7 of F (the key of the dominant) instead of the ii, thus initiating a tonicization of V. Here, the original tonic functions as the pivot chord because it receives so much more

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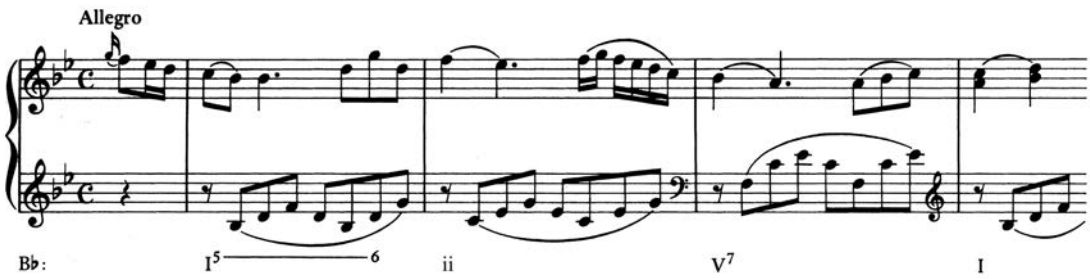
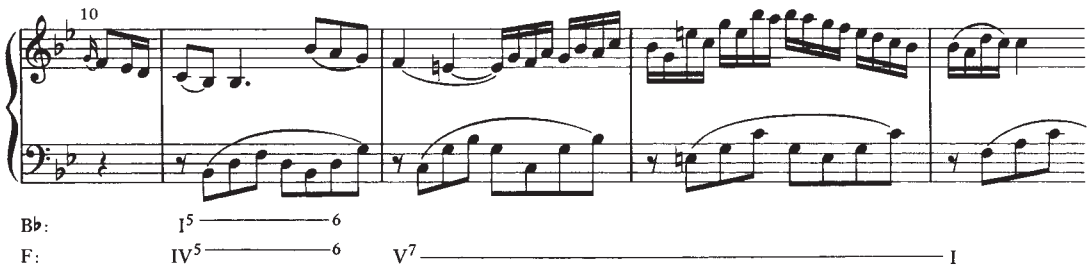
emphasis than the G-minor $\frac{6}{3}$. The lessening of stability caused by the 5-6 eases the process of modulation by impelling the original tonic onward to the dominant of F. *The 5-6 technique is important for modulation precisely because it allows the tonic, itself normally a goal, to become an active element.* (Review the similar process in Example 12-3.)

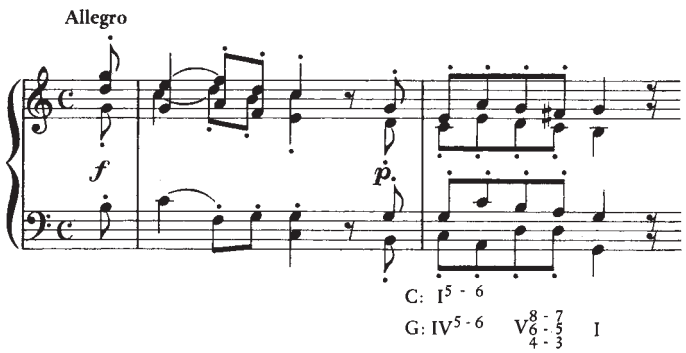
15-6 *Mozart, Piano Sonata, K. 333, I*

(a) beginning

(b) bars 10–14



In Example 15-7, from a Haydn quartet, we see a progression derived from the 5-6 technique. The C-major and A-minor chords of bar 2 (IV and ii of G) constitute a 5-6 motion with a skip down to the root of the second chord (review Unit 10, Section 12). Again, the pivot chord is I of C becoming IV of G. However, the A-minor chord also belongs to both keys, so one might read a group of two pivot chords rather than a single pivot.

15-7 *Haydn, "Emperor" String Quartet, Op. 76/3, I*



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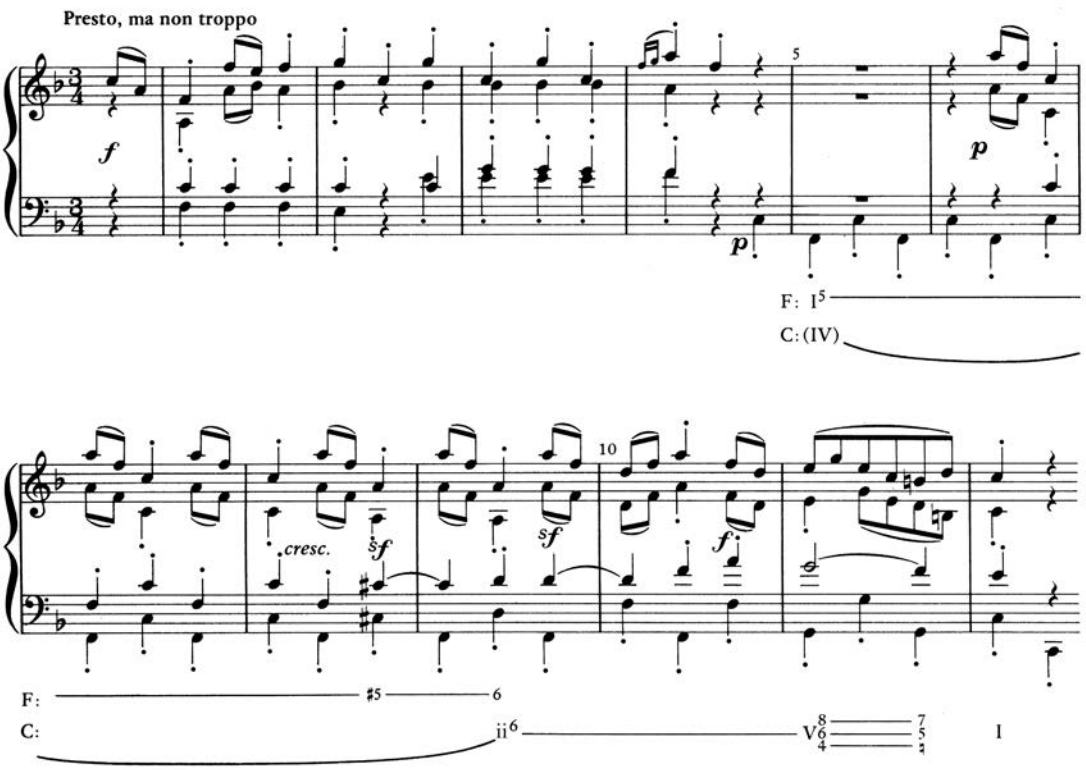
In Example 15-8, another excerpt from Haydn, the 5-6 motion is spread over many measures and the $\frac{6}{3}$ gets additional emphasis from the chromatic passing tone C♯. For this reason, the D-minor $\frac{6}{3}$ of bars 9–10 attracts much more attention than the corresponding chords in the two preceding examples. And the effect of destabilizing the tonic is much greater. Indeed, the loss of tonic stability is so noticeable that we tend to hear a change of focus with the arrival on the D-minor chord. This makes us feel it much more strongly as ii^6 of C than as a chord belonging to F major. A pivot chord is more difficult to specify here than in the preceding examples because the best candidate—the original F-major tonic—does not connect immediately with the change of key (remember that the D-minor chord already points to the coming C major). We might speak of a long-range, rather than a localized, pivot. This excerpt suggests some points of general validity: the boundaries between two key areas are not always sharply defined; furthermore, sometimes two (and possibly more) related chords will form a kind of pivot area (as in Example 15-7).

15-8 *Haydn, String Quartet, Op. 77/2, Menuetto*

9. *Cadencing in the New Key.* Most modulations and many of the more extensive tonicizations confirm the new tonic by means of an authentic cadence and often a melodic line that leads to $\hat{1}$ of the new key (Examples 15-1, bar 10; 15-5, bar 5; and 15-7). In Example 15-7, the transitional chords—IV and ii of G—lead directly to a V and form part of the cadence. Thus, the pivot chord(s) can move immediately to the cadential dominant. At other times, however,

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the pivot chord will form part of a noncadential progression, and the cadence will occur later. In the Schubert song (Example 15-1), the pivot chord leads to V^4_2 and I^6 of the new key; the I^6 moves first to a deceptive, then to an authentic cadence, extending the phrase from four to six measures. In the Bach Chorale (Example 15-5), the pivot chord leads to a noncadential V in bar 2, with the cadential dominant coming later, in bar 4.

10. *Returning to the Tonic.* After a brief sojourn in the area of the dominant, a return to the tonic requires no special preparation. If V has not been tonicized for long, the listener still feels the strong pull of the main tonic. The composer, therefore, can simply introduce the I chord in a place of some prominence and continue in the tonic. The last chord in the dominant area will have a double meaning: I of V and V of I. As we saw in Example 15-5, the tonic (I^6) returns with the first chord of the new phrase that begins in bar 6.

If the dominant has been maintained as a key area for a longer time, it may be necessary to make it clear to the listener that the tonicized V is reverting to its permanent and basic function—that of dominant in the main key. *This is best accomplished by turning the chord into a dominant seventh* by adding a minor 7th ($\hat{4}$ in the main key). As a seventh chord, V no longer sounds like a tonic; besides, V^7 has so strong a drive toward I that the listener is prepared for the return of the tonic. And finally, $\hat{4}$ is the one scale degree in the tonic key that does not appear in the key of the dominant. Remember, $\hat{4}$ must be raised to $\sharp\hat{4}$ to effect the modulation to V; hence, $\natural\hat{4}$ must be restored in the return to the home key. Therefore, the appearance of this tone helps to neutralize the temporary key at the same time as it prepares the return of the main one. In the Schubert song (Example 15-1), the 7th appears as the bass of a V^4_2 chord (bar 11).

11. *V as a Key Area and Musical Form.* The *form* of a piece results from its articulation into parts of various dimensions—rhythmic groups, phrases, groups of phrases, sections—and from the relationship of part to part and of part to whole. A new key area makes for contrast with what has already happened; this contrast, in turn, can help to differentiate one section from another. Modulation, therefore, can be an important means of articulating the large divisions of form; tonicization can help to articulate some of the smaller segments. Because of the special importance of the tonic-dominant relationship, the use of V as a key area is of particular importance in creating musical form.

The form of Example 15-1, for example, grows out of its division into three phrases. The first of these moves within the tonic; the second tonicizes V and confirms it with a strong cadence; and the third returns to the tonic and refers back to some of the opening material—note the resemblance between bars 11–12 and bars 3–4. The tiny *coda* or postlude rounds off the ending with a varied repetition of the final cadence. Without the contrast of the tonicized V, there would be no impression of departure and return; the form would lose much of its plasticity.

Tonicizations of V often occur within a group of two phrases in antecedent-consequent relation (see Unit 11, Section 14). Sometimes, as in Example 15-9, the antecedent phrase closes with an authentic cadence in the dominant area, which we can refer to as a *tonicized half cadence.* The authentic bass motion (V–I, often embellished with a V^6_4) and the cadential soprano $\hat{2}$–$\hat{1}$ or $\hat{7}$–$\hat{1}$ tonicize V to a greater extent than does a single applied chord; V is still heard in relation

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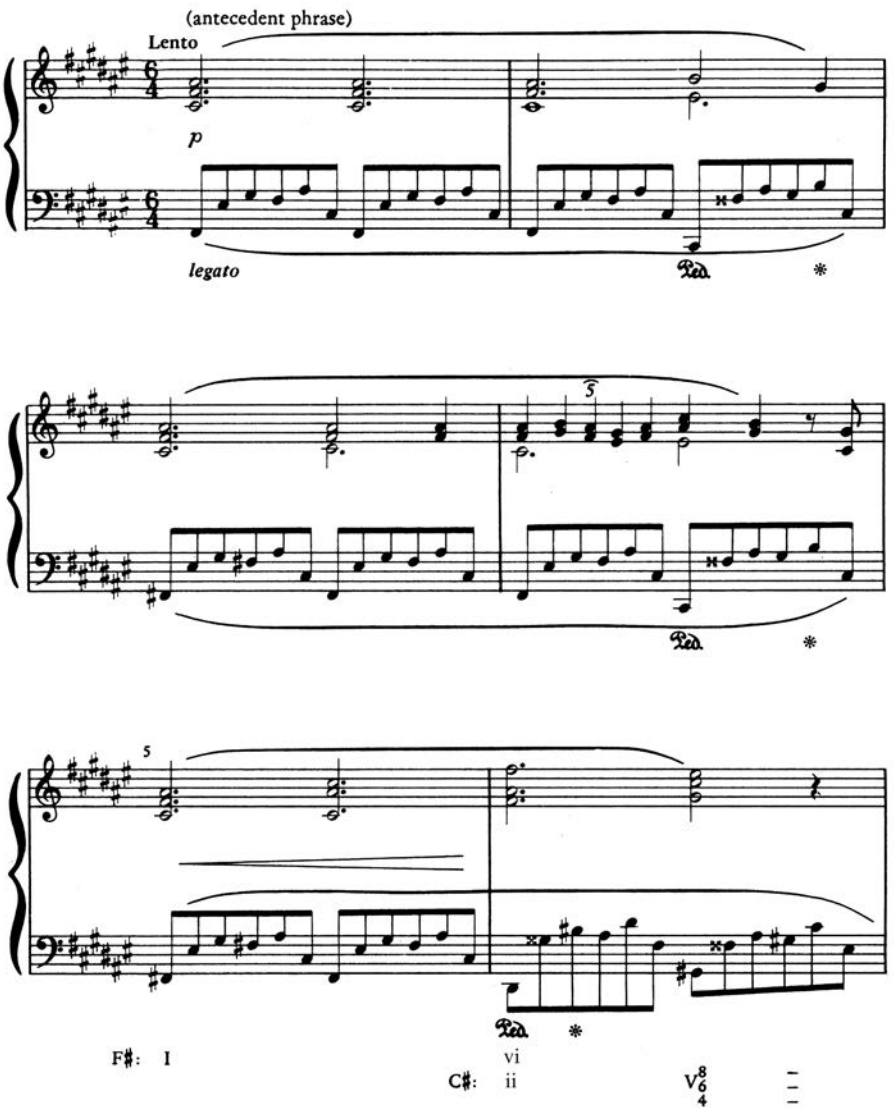
to the home tonic, as an intensified replacement of a semicadence, but it also may lead to a more extended dominant area should the composer desire. In Chopin's Prelude (Example 15-9), the tonicized half cadence leads immediately back to the tonic at the beginning of the consequent phrase. In other forms (as in many major-mode binary movements), the tonicized half cadence prepares the beginning of an area in V.

Finally, notice in Example 15-9 that a cadential $\frac{6}{4}$ occurs on a weaker beat than the V^7 to which it moves; this rhythmic irregularity will be discussed in Unit 20, Section 12.

15-9 *Chopin, Prelude, Op. 28/13*

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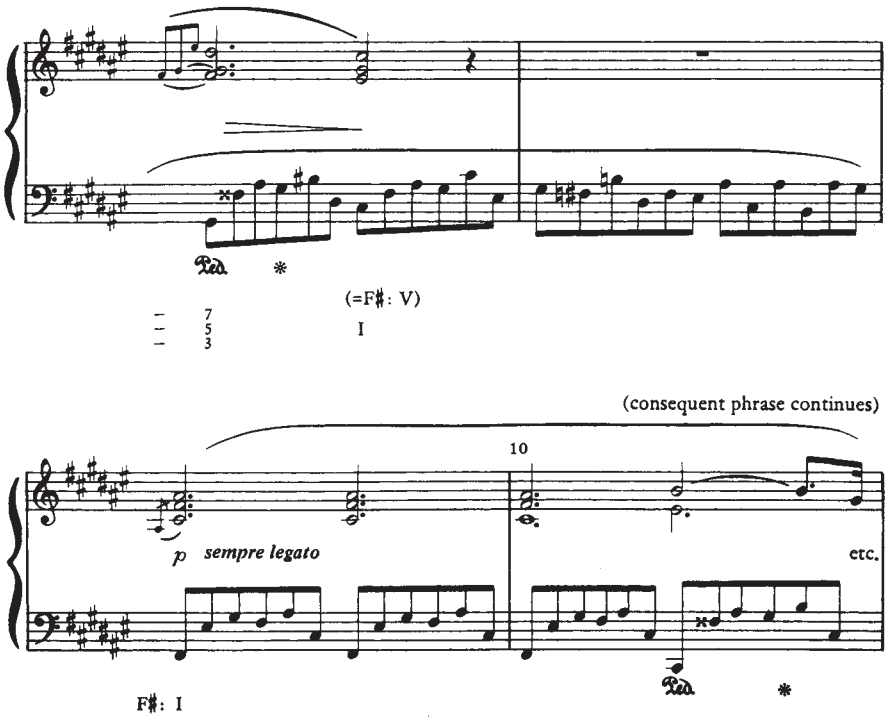
Another possibility is for the *consequent* phrase to end with an authentic cadence in the dominant instead of the expected final tonic (Example 15-10). This procedure gives the consequent phrase a very different function from its usual one. It does not resolve the tension generated by the nontonic ending of the antecedent phrase; on the contrary, the level of tension is increased by the shift to a new key area. After such a modulating consequent phrase, the tonic may return immediately. But the dominant may also remain as a key area, or the ending of the consequent phrase may serve as a springboard for a modulation to yet another key area.

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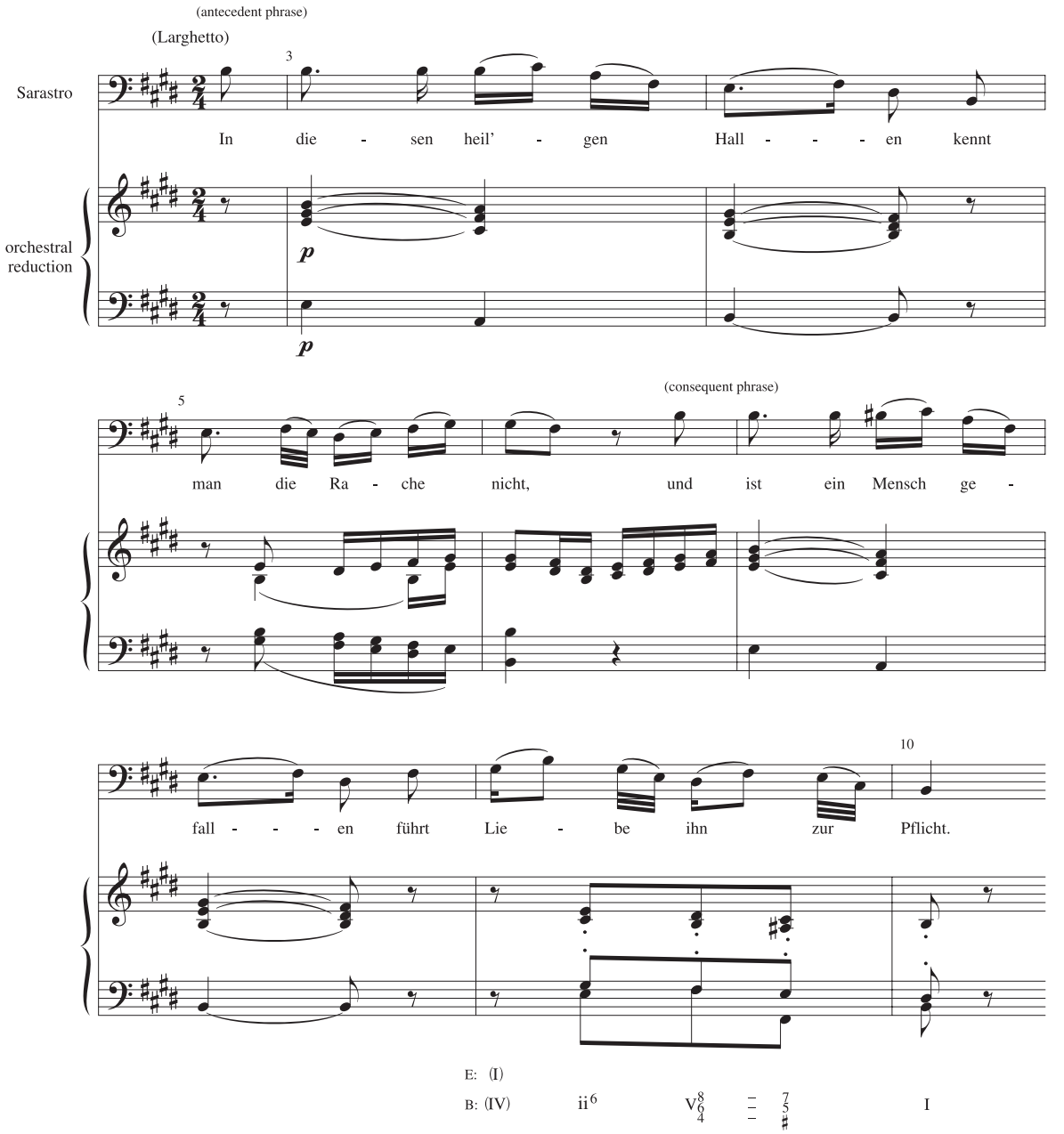
15-10 Mozart, "In diesen heil'gen Hallen" (from *Die Zauberflöte*, K. 620)

(antecedent phrase)
(Larghetto)
Sarastro
orchestral reduction
In die - sen heil' - gen Hall - - - en kennt
p
p
(consequent phrase)
man die Ra - che nicht, und ist ein Mensch ge -
fall - - - en führt Lie - be ihn zur Pflicht.
E: (I)
B: (IV) ii6 V8/6/4 7/5/♯ I

translation: In these sacred halls revenge is unknown, and if a person succumbs, love will lead him to his duty.

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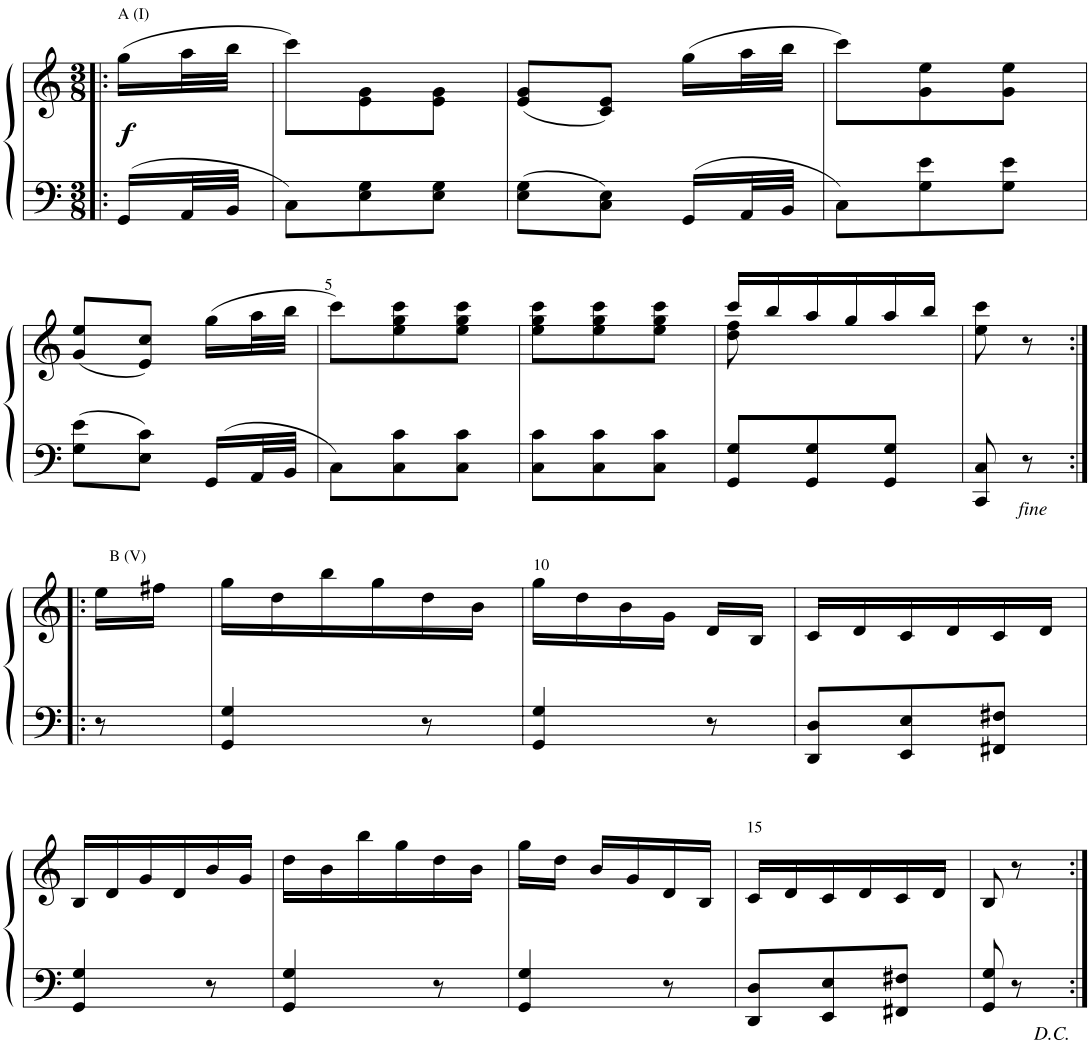
A German dance by Mozart (Example 15-11) shows another important possibility: a tonicized V as the harmonic basis for the B section in an ABA or ‖: A :‖: BA :‖ form. In this piece, the middle (B) section starts off immediately in G, the dominant area (bar 9). This creates a more sharply sectionalized form than in the Schubert song, where the second phrase gradually transitions into the new key area. In analyzing a piece like this Mozart dance, the notion of a pivot chord is not very helpful. To be sure, the G chord of bar 9 might possibly be understood as a pivot, but the strong contrasts in rhythm and texture (and also the F♯ in the upbeat to bar 9) make it sound as though the section in G begins anew, without any transition from the preceding music.

The term *phrase modulation* is sometimes used to describe a change of key (like the one in Example 15-11) where the new tonic appears at the beginning of a phrase without being prepared by a pivot chord.

15-11 *Mozart, German Dance, K. 509/6*

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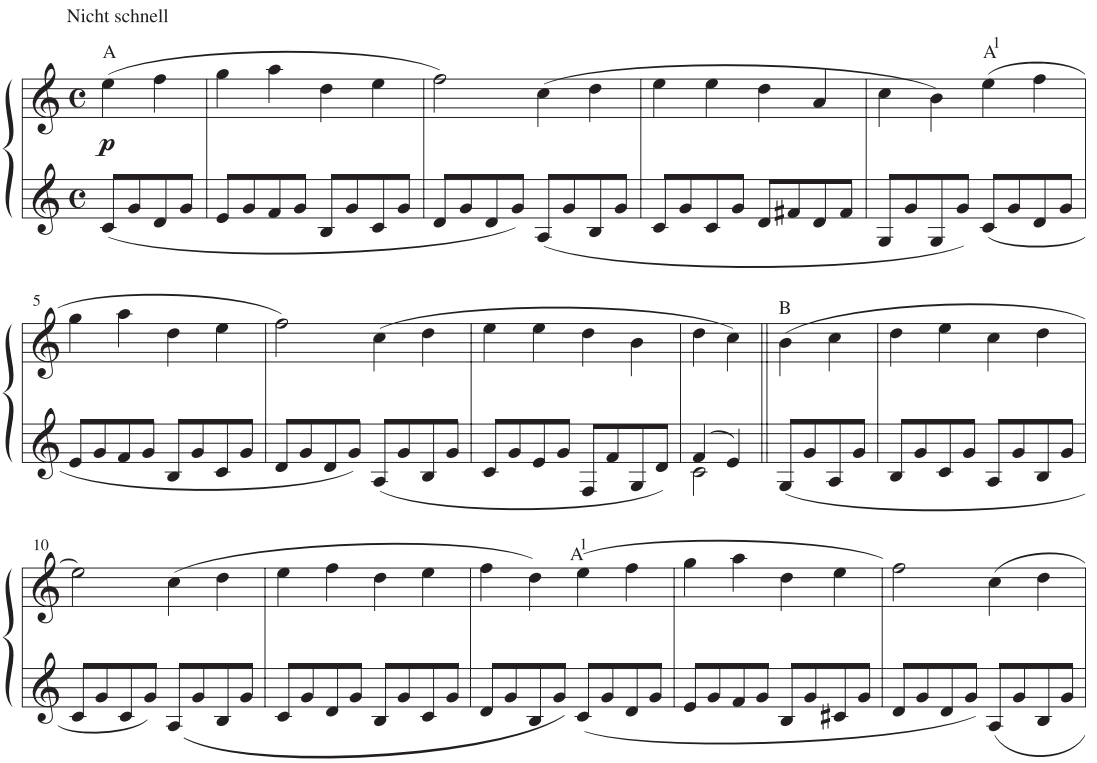
A type of small form that frequently contains tonicizations of V is a group of four phrases of basically equal length in the pattern AABA, the four falling into two groups of two. This formal type is frequently called a *quatrain*. The A phrases need not be identical; in particular the first A and second A usually cadence in different places, one of them on I and the other on V. Quatrain form is characteristic of many folk songs (such as the old French tune "Au clair de la lune") as well as of themes and short pieces from the Classical and Romantic periods which suggest a folk-like simplicity (for example, the "Ode to Joy" from Beethoven's Ninth). In a quatrain, a tonicization of V might occur at the cadence of either the first or the second A. The B might continue to tonicize V, but at some point it will lead back to the tonic, which usually enters at the beginning of the third (and final) A. In Example 15-12, an entire small piece from Schumann's *Album for the Young,* the tonicization of V occurs at the first cadence and the first two A phrases form an antecedent–consequent pair. The B phrase prolongs (but does not tonicize) V, and the final A is an almost identical replay of bars 5–8. In this piece, the form is expanded by a repeat of bars 9–16. In quatrain-form variation themes and dance movements (especially minuets), both halves will usually repeat.

15-12 *Schumann, "Stückchen"* *(from Album for the Young, Op. 68)*

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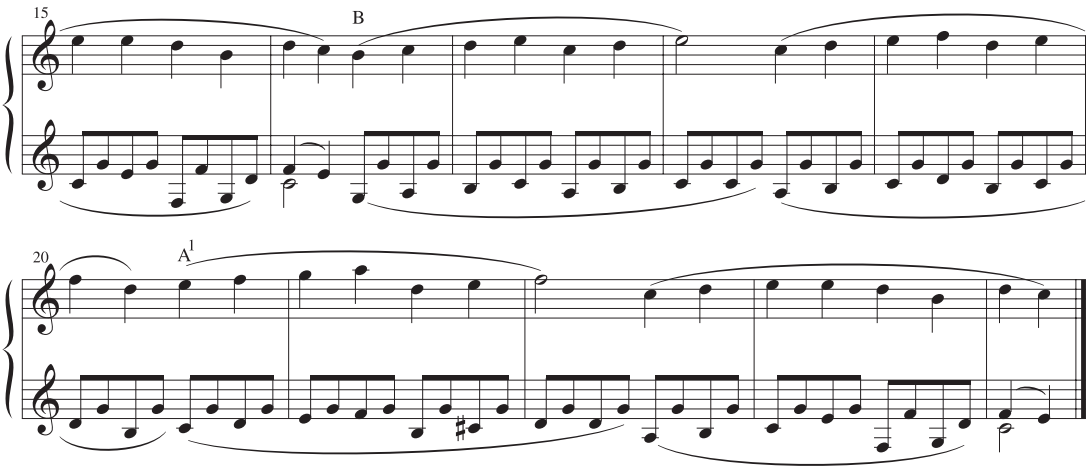

Longer and more elaborate pieces than Examples 15-1 or 15-11 articulate their form by means of modulation to V. Among the most important are movements in sonata-allegro form in a major key. These usually modulate to the dominant in the bridge section that follows the first theme or thematic group. The latter part of the exposition remains in the dominant key; the return to the tonic is effected by the events of the development section.

Applications to Written Work

12. ***Harmonizing Modulating Melodies and Realizing Modulating Basses.*** Melodies sometimes signal a modulation with accidentals. In the Schubert song (Example 15-1), for example, the C♯'s in the vocal line clearly indicate D as temporary tonic. Such melodies are not always easy to harmonize well, but at least recognizing that a modulation is taking place should not be a problem. Other melodies are less obliging. In the chorale of Example 15-13, for instance, the soprano line of bars 3–5 contains not a single accidental; the B in the bass line is the only one. Harmonizing a melody of this kind can be difficult; you must use your ear and brain to recognize modulations where the melodic line does not hold up a sign, so to speak, to announce them. Always listen for the long-range goals of the line; in particular, observe the cadential points. In the chorale melody (Example 15-13), the motion from D to C (bars 4 and 5) implies $\hat{2}$-$\hat{1}$ in C rather than $\hat{6}$-$\hat{5}$ in F; strong cadences do not normally support the melodic progression $\hat{6}$-$\hat{5}$, but they *do* support $\hat{2}$-$\hat{1}$.

    The realization of modulating figured and unfigured basses is usually easier than the harmonizing melodies. The figured basses normally indicate all the necessary chromatic adjustments, and even in unfigured basses, modulations are easy to recognize because of the unmistakable V-I progressions, especially at cadences. But remember that a cadence is normally a melodic as well as a harmonic event, and try to shape your melody to support the cadence.

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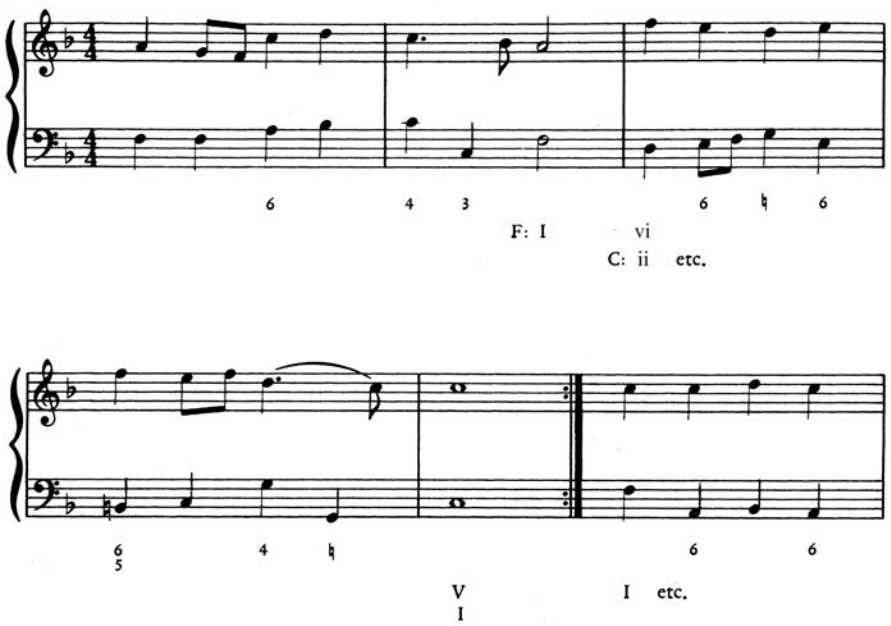
15-13 *Freylinghausen, Figured-Bass Chorale, "Morgenglanz der Ewigkeit"*



13. *Writing Phrase Groups That Tonicize V.* Writing short phrase groups that begin on I, tonicize V, and return to and conclude on I can be one of the most valuable exercises for learning to hear and understand modulations. Example 15-14a includes two such groups that can serve as models. Both are eight bars long and have the following in common:

1. They establish the initial tonic (bars 1–2).
2. A pivot chord introduces the key change (bar 3).
3. An authentic cadence confirms the new key (bars 3–4).
4. The new "tonic" is transformed into a V (bar 5 in a; bar 6 in b).
5. The initial tonic returns and leads to a closing cadence.

In Example 15-14a, the eight bars divide into two four-bar phrases, the first moving from I to V, and the second returning (via V^7) to I and cadencing. In 15-14b, one hears four short phrases of two bars each, which form a miniature quatrain. In this group, the second phrase tonicizes V, rather than the first phrase, as in the Schumann piece (Example 15-12). The tonicization continues through the beginning of phrase 3, but it is canceled by the F♮ in bar 6.

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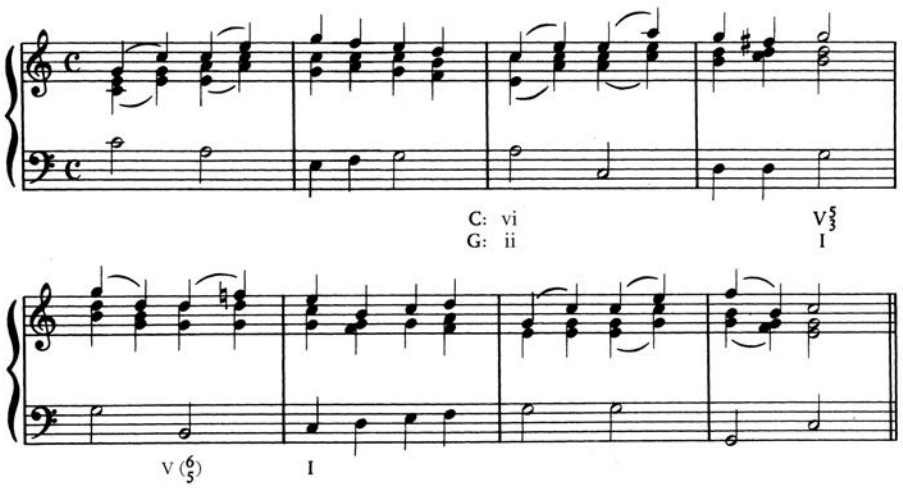
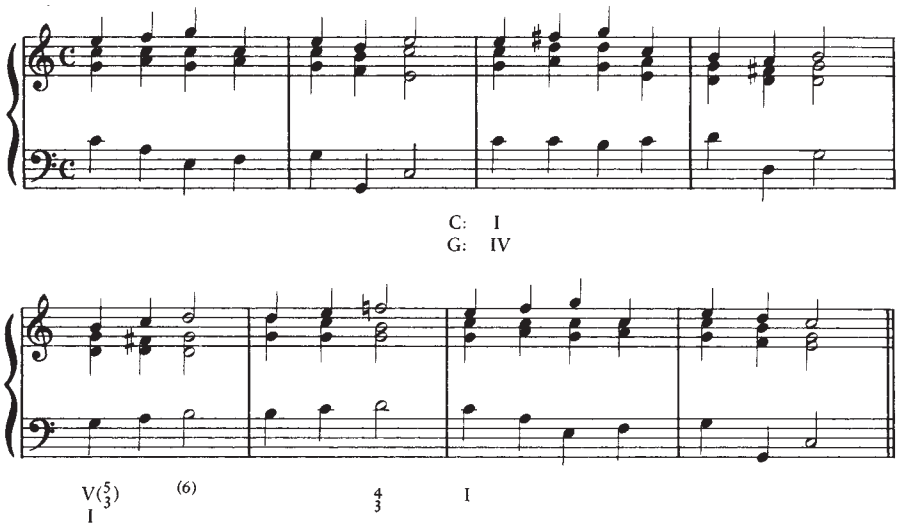
15-14 *phrase groups*

(a)

(b)



Follow these procedures closely when you begin to write such phrase groups. You can vary the pacing of the tonal motions from one exercise to another, but you should achieve the cadence in the dominant key midway through the exercise. Strive for a clear texture in which the larger harmonic direction is not obscured by unnecessary complexities of voice leading or chord succession. You are writing exercises, not compositions, but they can sound very good if you direct your attention to the contour of the melodic line and to the balance among rhythmic groups.

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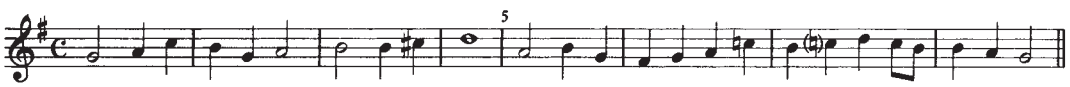
POINTS FOR REVIEW

1. The terms *tonicization* and *modulation* refer to the process of making scale degrees other than $\hat{1}$ sound like temporary tonics. In major, V is the more frequently tonicized area.
2. The most frequent element of tonicization is the applied V or vii°. At present, the following applied chords are available: V^5_3, ^{7}, ^{6}, $^6_5$, $^4_3$, $^4_2$ of V, and vii°^{6} of V. All of these chords contain $\sharp\hat{4}$, the leading tone of $\hat{5}$. Don't double $\sharp\hat{4}$!
3. Characteristic bass line: $\hat{4}$-$\sharp\hat{4}$-$\hat{5}$, using V^6_5 (or sometimes V^6) of V.
4. Characteristic soprano line: $\hat{3}$-$\sharp\hat{4}$-$\hat{5}$, using vii°^{6}, V^4_3, or V^4_2 of V.
5. A pivot chord belongs to both the original and new keys. Frequent pivot chords are ii and IV in the new key (vi and I in the old). Frequently, a 5-6 progression over the main tonic leads to the dominant of the new key.
6. The new key area is often confirmed by an authentic cadence and a melodic motion to $\hat{1}$ of the new key.
7. The return to the main tonic can be effected by adding a 7th to the tonicized V, so that it becomes V^7 of the main key. This process involves restoring $\flat\hat{4}$ of the home key (from $\sharp\hat{4}$ used to tonicize V).
8. There are several ways in which tonicizing V has an important influence on musical form. These include
   a. using a tonicized V at the end of an antecedent or consequent phrase.
   b. using a tonicized V for the middle section of ABA form.
   c. modulating to V in the exposition of a sonata-allegro movement in major.
   d. using a tonicized V in one of the A sections, or the B section, of a quatrain.

EXERCISES

1. Preliminaries. Using a different major key for each, write phrases that demonstrate
   a. the bass line $\hat{4}$-$\sharp\hat{4}$-$\hat{5}$.
   b. the soprano line $\hat{3}$-$\sharp\hat{4}$-$\hat{5}$.
2. More preliminaries. Write short progressions in different major keys that begin on I and modulate to V. Show at least two different ways of using the following pivot chords.

Main Key		New Key
a. I	=	IV
b. vi$^{(6)}$	=	ii$^{(6)}$
c. V	=	I

3. Expand the progressions you wrote in Exercise 1 into phrase groups that incorporate the five features listed in Section 13. See Example 15-14 for models.
4. Melody.

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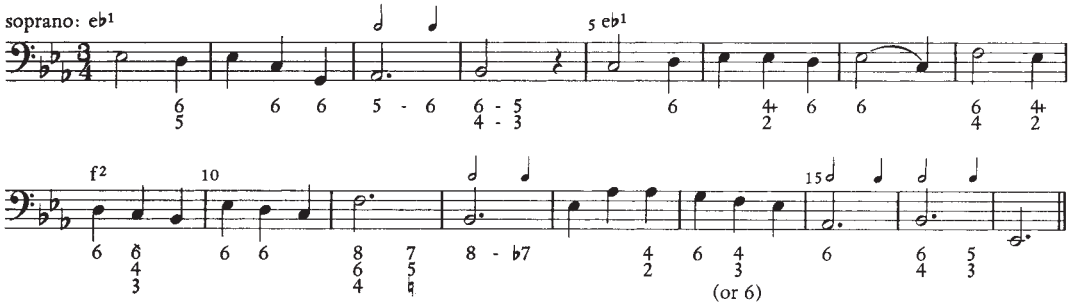
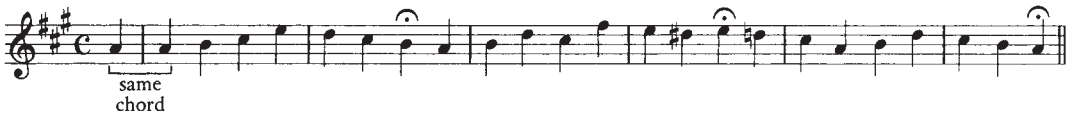
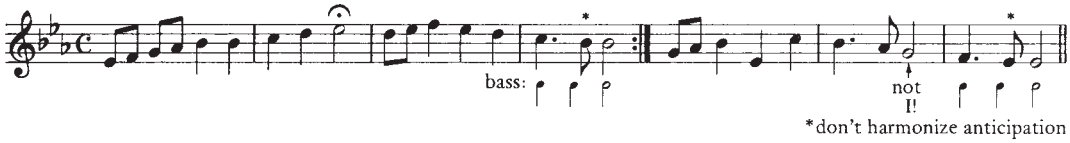
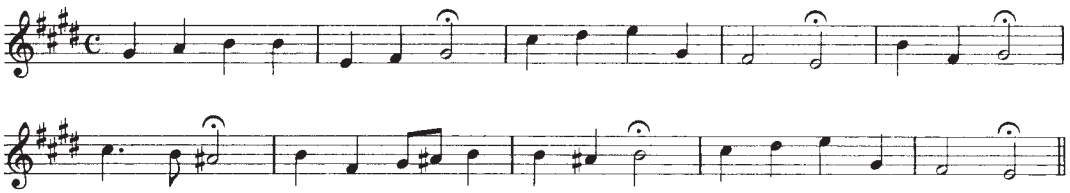
5. Figured bass.



MINDTAP

Guided Exercises

This exercise's step-by-step audiovisual solution is available on MindTap.

6. Chorale melody.

7. Chorale melody.

8. Chorale melody.

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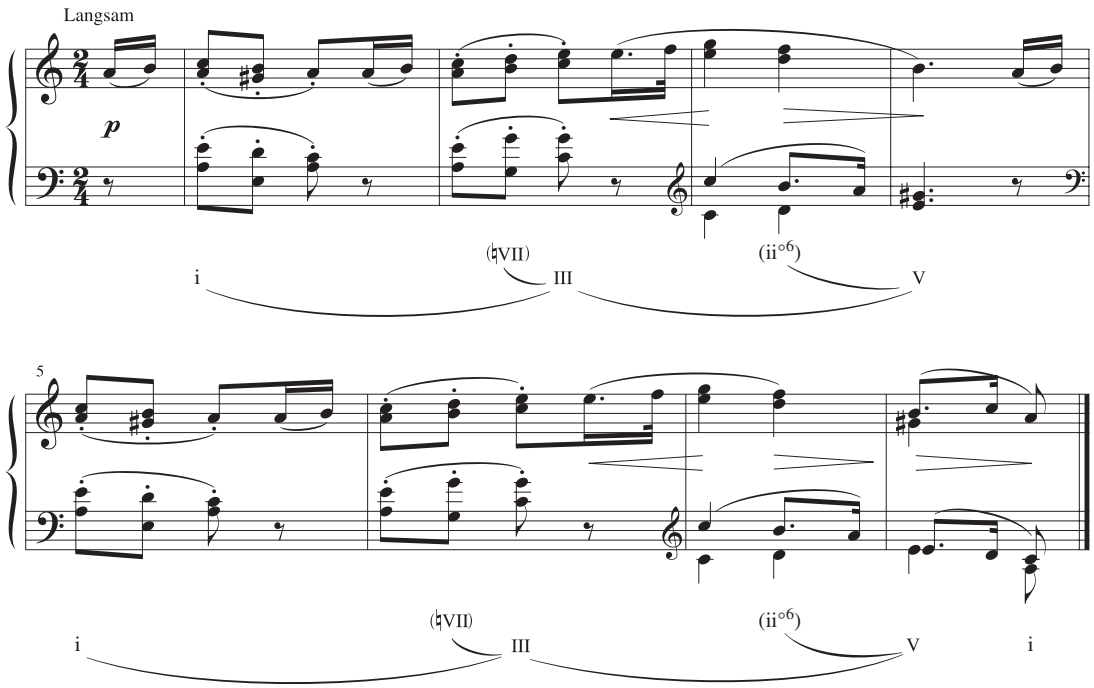
UNIT

16

III and VII

16-1 *Schumann, "Armes Waisenkind"* *(from Album for the Young, Op. 68)*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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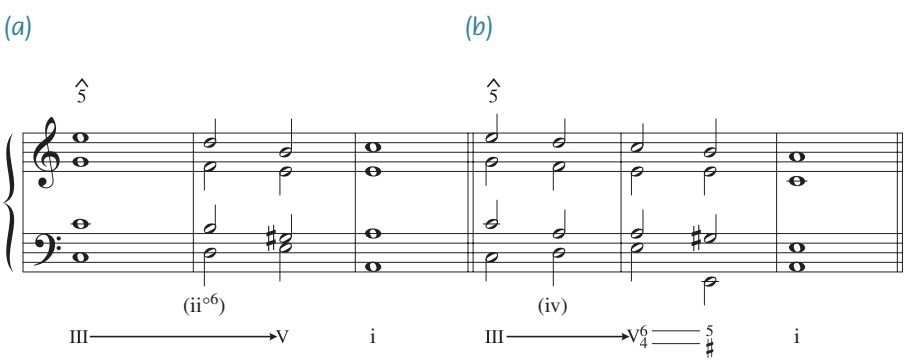
Uses of III

1. *i-III-V in Minor.* Example 16-1 illustrates some of the most important characteristics of III and, in addition, shows a typical function of VII in minor. The section consists of two phrases in antecedent–consequent relation. In the first phrase, the harmonic focal points are i (bars 1–2), III (bars 2–3), and V (bar 4). The second phrase retraces the same steps but adds a final tonic, thus answering the semicadence with an authentic one. Note that III forms a resting place almost midway between i and V (hence the term *mediant*).

As in the Schumann piece, III often forms an important part of a large-scale harmonic plan. Like ii^{o6}, iv, and sometimes VI, III leads from an opening tonic to a dominant. However, III differs from these other triads in important ways. The bass line of i-III-V arpeggiates the complete tonic triad, as can be seen very clearly in Example 16-1. In this way, III resembles i^{6}, which also produces an arpeggio between i and V. Although i and III have different roots, they share two common tones, and the root of III is one of the common tones. For this reason, a motion from i to III tends to sound less like a progression of two chords than like an expansion of i. This tendency characterizes any root progression by rising 3rd, even when chromatic inflection removes one of the common tones and adds more contrast, as in III-V in minor. Composers have treated these root progressions with care, almost as if they were repetitions of a single harmony. For the most part, they are avoided when moving from a weak to a strong beat. And when i-III-V is to form the harmonic framework of a section, intervening chords usually lead from i to III and from III to V. Unlike i-iv-V and i-ii^{o6}-V, therefore, i-III-V will seldom occur in direct succession.

Composers frequently move from i to III through VII. In the Schumann piece (Example 16-1), the G triad has two meanings. On the one hand, it is an element of the A-minor tonality (natural VII); on the other, it is the applied dominant of the C chord (V of III), and it makes III sound like a goal. In moving from III to V, composers most often use a passing tone in the bass supporting iv or (as in Example 16-1) ii^{o6}. The directional quality of the bass line and the elimination of $\hat{5}$ as a common tone intensify V and make the progression a very satisfactory one. As Example 16-2 shows, such a progression typically supports a top voice that usually descends by step. Other options exist, however. In the Schumann piece, for example, the leap of the diminished 5th in an otherwise conjunct melody enhances the poignant expression of the cadences.

16-2 *moving from III to V*



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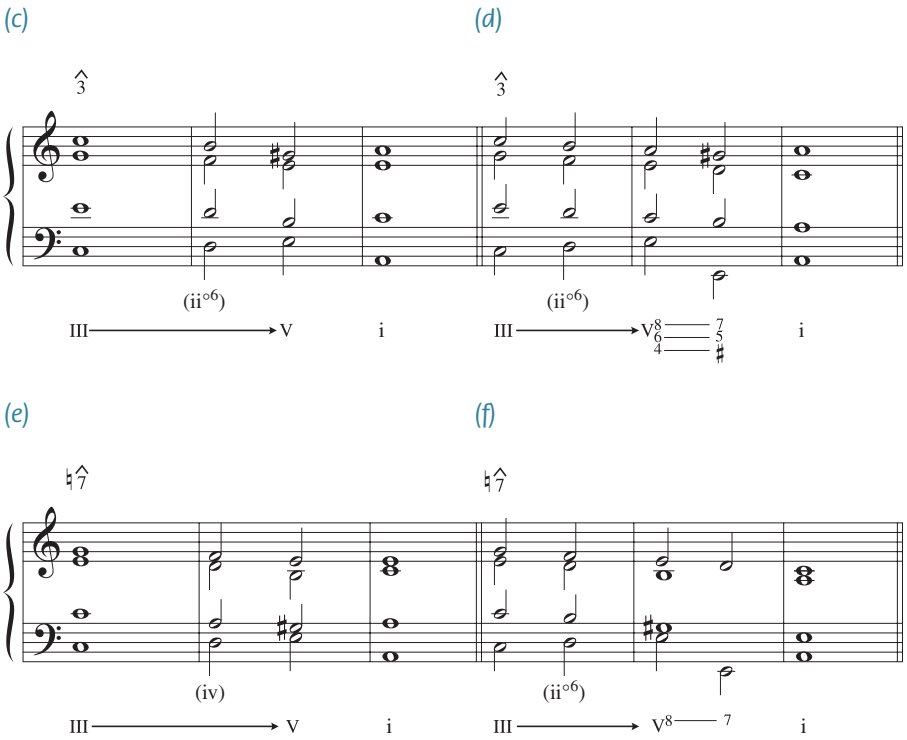

2. *Modulation to III in Minor.* Because of the position of the diminished 5th (between $\hat{2}$ and $\hat{6}$) in natural minor (review Unit 2, Section 14), the minor mode tends to gravitate to III. This tendency is reflected in the large structure of many pieces in minor: III is frequently expanded into a key area. In addition, the major quality of III makes a welcome contrast to the minor tonic—a contrast beautifully evident in the Schumann excerpt of Example 16-1. Furthermore, the minor mode can tonicize III without any accidentals because the leading tone of III occurs diatonically as $\hat{2}$ in the minor scale; thus, the chords in bar 2 of Example 16-1 suggest a cadential progression (vi-V-I) in C major without the use of any accidental signs.

Because the natural minor scale and its tonicized III contain the same seven tones, it is sometimes possible to harmonize a repeated melodic segment in two key areas—the tonic and the mediant. (Exercise 6 on page 280 exploits this very interesting possibility.)

Pieces in minor therefore tend to modulate to III more often than to V but without any weakening of the tonic-dominant relationship, for the expanded III functions as a stopover on the way to V. In an excerpt from a figured-bass Chorale of Bach (Example 16-3), III arrives in bar 3 and is confirmed by a strong cadence. Just as in Example 16-1—only over a longer span—the III moves up by step to a strong V-i cadence.

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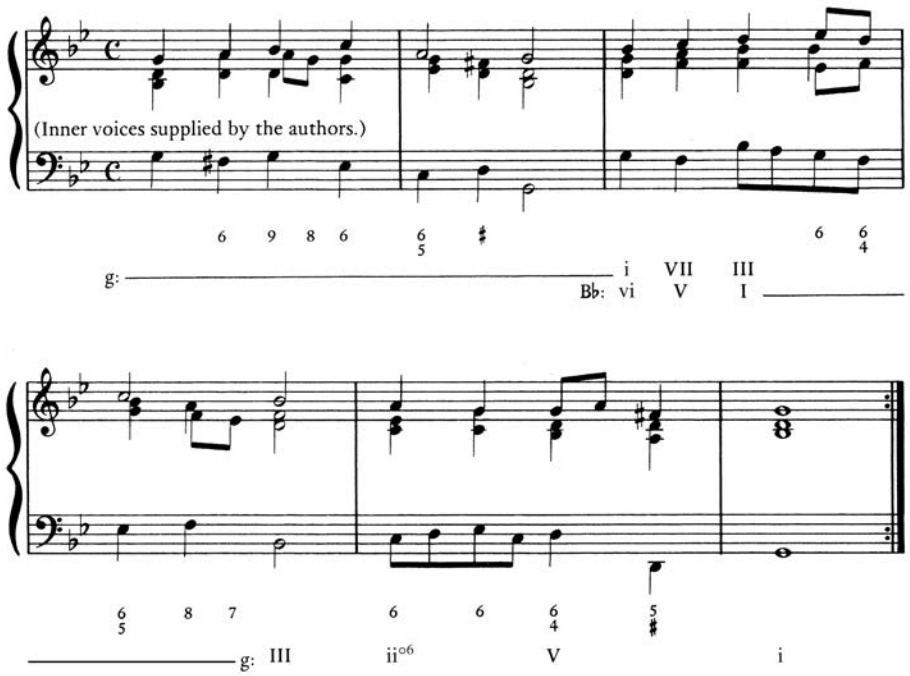
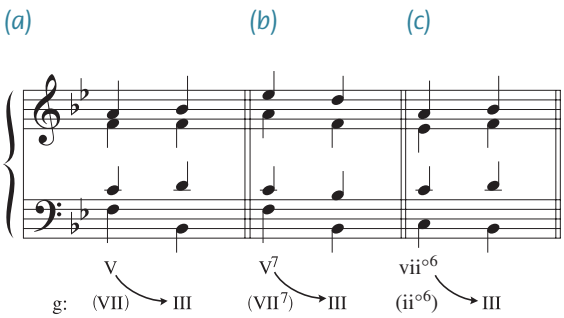
16-3 *Bach, Figured-Bass Chorale, No. 29*

Because of the inherent tendency of minor to move to III, tonicizing it is much easier than tonicizing V in major. None of the applied chords that we are using require any accidental, for they all function as diatonic elements within the main key. As we have seen, V of III = VII; similarly, V^7 of III = VII^7, and vii^{o6} of III = ii^{o6}. Example 16-4 illustrates.*

16-4 *Applied chords to III*



3. *I-iii-V in Major.* An excerpt from a Chopin Etude (Example 16-5) shows iii functioning as part of a broad harmonic progression in the major mode. This usage of iii is much less common in major than in minor, especially in music

*Remember, there are two chords labeled with a Roman numeral VII: in the natural minor scale, VII, a major triad, is built on the subtonic; vii° is built on the leading tone and is a diminished triad. The subtonic VII often functions as V of III.

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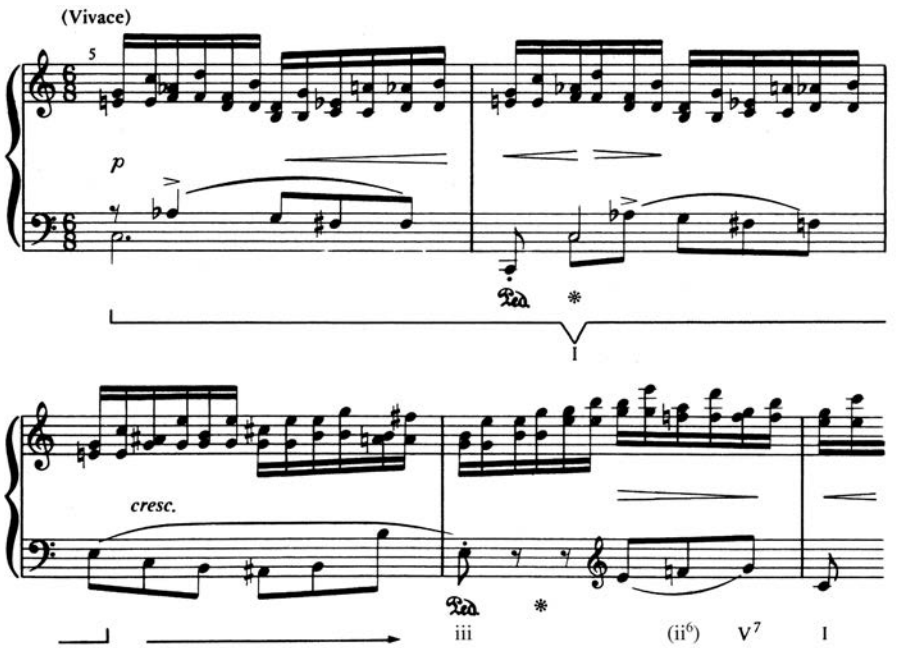
before the nineteenth century. Unlike minor, the major mode contains no inherent tendency to gravitate to iii; the tritone in major (between $\hat{4}$ and $\hat{7}$) leads unequivocally to I. And iii in major cannot be tonicized without the use of accidentals in the altered vii^{o} or V of III (note the F♯ in bar 7 of Example 16-5; a complete chord would require a D♯ as well). A progression leading from iii to V in major usually proceeds exactly as in minor—through a passing IV or ii^{6}.

Sometimes, as in Example 16-5, V in the progression iii-V-I will appear in a weak metric position compared with iii and I; this can occur both in major and in minor. The force of dominant harmony is so great that it does not always require special emphasis through duration or accent.

16-5 *Chopin, Etude, Op. 10/7*



As we have seen, I-iii-V does not typically occur in direct progression, especially in music written before the nineteenth century. During that century, composers increasingly began to exploit chord progression by ascending 3rds, sometimes moving directly from iii to V without a passing IV or ii^{6}. But they would seldom write the entire progression I-iii-V without intervening chords. Brahms did, however, in his Intermezzo, Op. 119, No. 3 (Example 16-6), in a most unusual passage. With poetry and wit, Brahms leads us from I to V^{7} by almost imperceptible degrees so that we are hardly aware that we have arrived at the dominant in the bass (beginning of bar 44) until the *sforzando* and the rush of quick notes bring the V^{7} forcefully to our attention.

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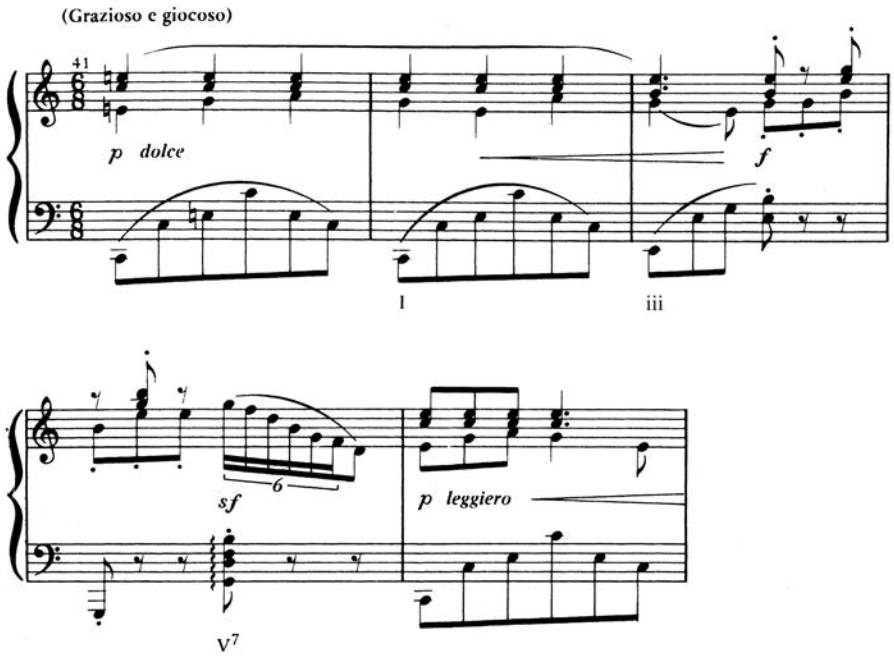
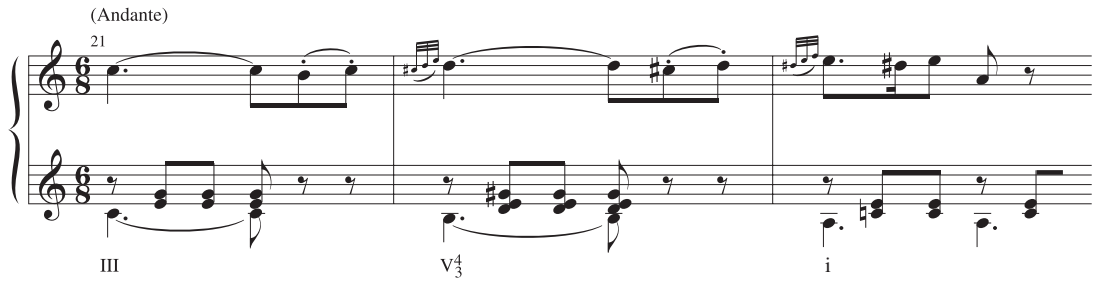
16-6 *Brahms, Intermezzo, Op. 119/3*



4. *III Moving to i through an Inversion of V(7).* The first main part of Mozart's Rondo in A minor, K. 511, divides into three subsections, the first and last in the tonic, the second in the mediant (C major) expanded into a key area. Example 16-7 shows the end of the C-major section and the transition back to the tonic. Note that Mozart does not lead to i through a root-position V; the dominant chord is an inverted one, a $\frac{4}{3}$. As in Example 16-7, III frequently moves to i through an inverted dominant (most often $\frac{4}{3}$, $\frac{6}{5}$, or $\frac{6}{3}$). The stepwise connection to i gives these progressions a decidedly melodic, contrapuntal character.

16-7 *Mozart, Rondo in A minor, K. 511*



Inverted dominants do not normally constitute goals of motion and need not receive as much emphasis as do those in root position, so intervening chords are not required here (Example 16-8). In major, there are two common

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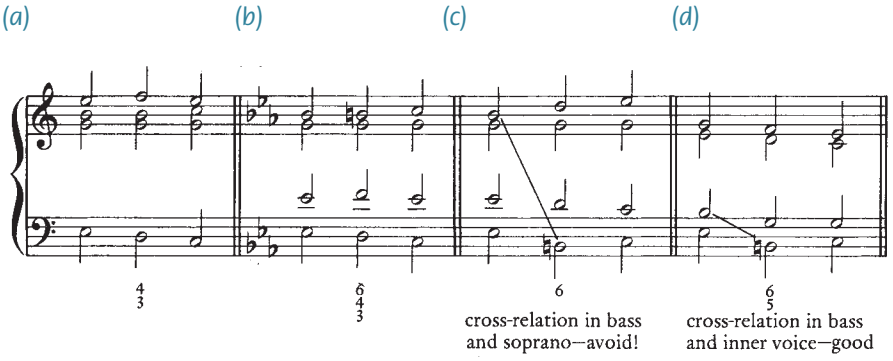
tones between iii and V; in minor (III and V), one common tone and one chromatic half step. The greater tonal contrast makes the progression stronger in minor than in major.

16-8 *mediant moving to inverted dominant*



5. ***The Cross-Relation.*** The use of V^6_3 or V^6_5 when preceded by III in minor creates a *cross-relation* between an upper part and the bass; that is, the chromatic succession takes place between *two* voices rather than in a single one. The cross-relation is unduly harsh if natural $\hat{7}$ occurs in the soprano voice (16-8c) but creates no problem if natural $\hat{7}$ is in one of the inner voices (16-8d).

6. ***III as Upper 5th of VI: III-VI-ii°-V-i.*** The addition of III to our vocabulary of chords allows us to add another link to the chain of progressions by descending 5th. In the minor mode, III can move to VI in the same way that VI moves to ii° or ii° to V. As we know, VI does not usually function as a goal but instead moves on to some other chord—iv, perhaps, or ii°, or V. For this reason, the descending 5th III-VI does not normally occur by itself but leads on through ii° to V, and often, to i. We can observe such a progression in Example 16-9. Note that ii° appears in $\frac{6}{3}$ position—partly, perhaps, to avoid a diminished $\frac{5}{3}$ but mainly to allow a large-scale stepwise bass line F-G-A (III-ii°6-V). In this excerpt, the VI sounds subordinate to the other chords, which are emphasized by fuller texture and greater rhythmic activity. Incidentally, the root-position ii° (diminished $\frac{5}{3}$) and the dissonant bass progression VI-ii° (diminished 5th or augmented 4th) sound better in the middle of a progression (as in III-VI-ii°-V-i) than when the progression begins on VI. Handel avoids the root position here but, as it happens, uses it in the next variation. (The same progression, by descending 5th, occurs quite frequently in the major mode: iii-vi-ii-V-I).

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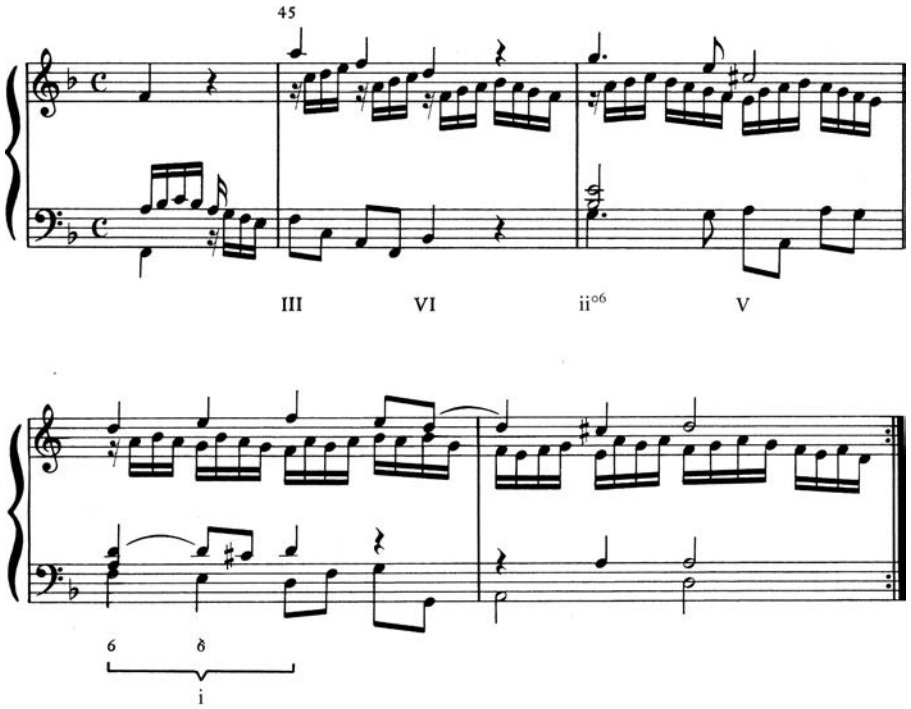
16-9 *Handel, Air and Variations, Variation 3* *(from Suite No. 3)*

7. *iii in Smaller Contexts.* Important though it is in large-scale progressions, iii appears in smaller contexts much less frequently than ii, IV, or vi. When iii does so, it usually follows I, and because of the common tones of the two chords, iii sounds less like an independent chord than like an offshoot or extension of tonic harmony. As such, it has one highly important function: to support a passing $\hat{7}$ in a descending line, usually in the soprano. $\hat{7}$ lies a 5th above the bass of iii, and the 5th, of course, is an exceptionally stable interval. This stability helps to diminish the intense upward drive of $\hat{7}$ in major and makes it more amenable to downward motion, as can be heard in Schubert's song "Im Frühling" (Example 16-10a). Schubert's succession of chords—I-(iii)-IV—is the typical one; another important possibility is moving to ii^6 with $\hat{6}$-$\hat{7}$-$\hat{8}$ in an inner voice (Example 16-10b). Less frequently, vi supports $\hat{6}$ (16-10c). The effectiveness of iii as support for $\hat{7}$ (descending passing tone) can be helpful in expanding a motion down from vi to IV, perhaps as part of a bass arpeggio (16-10d).

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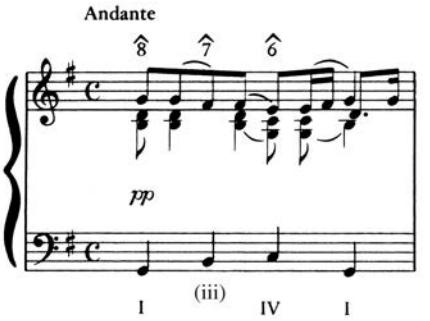
16-10 *iii supports* $\hat{7}$

(a) Schubert, "Im Frühling"



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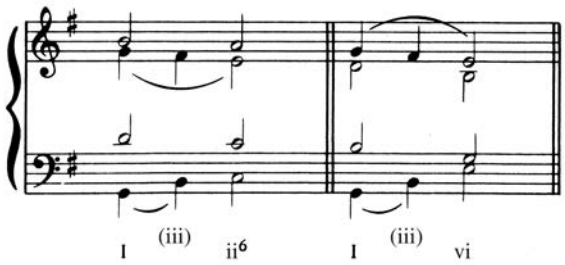

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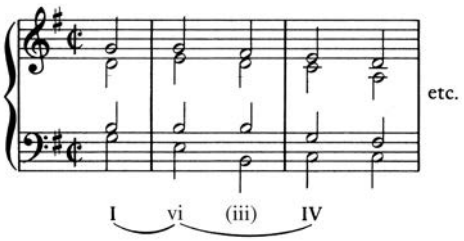
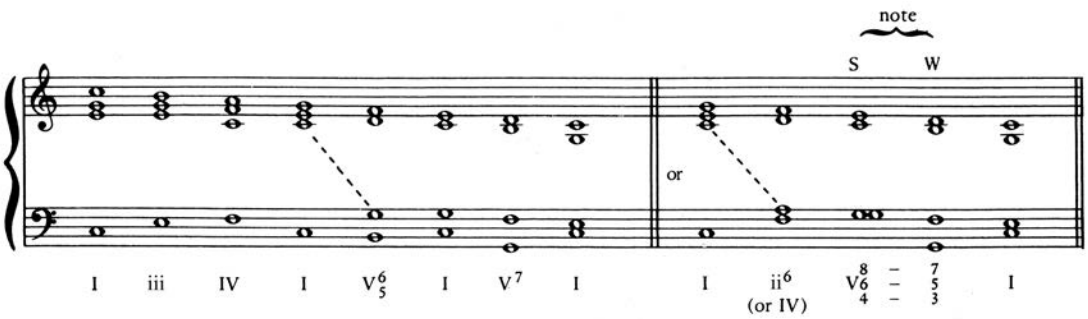


With the use of $\hat{7}$ supported by iii, it is now possible for you to harmonize a descending scale in the soprano (Example 16-11). Note that to set $\hat{8}$-$\hat{7}$-$\hat{6}$-$\hat{5}$ in minor, the natural form must be used.

16-11 *harmonizing the descending scale in the soprano*

(a) major



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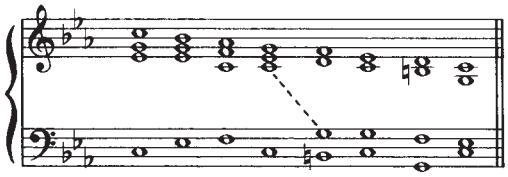
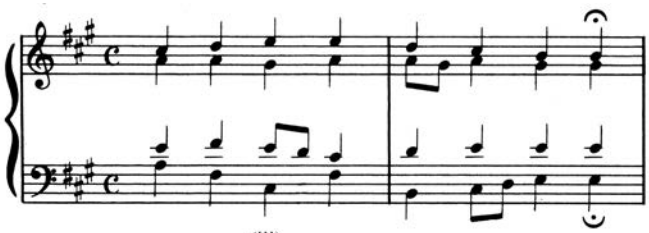
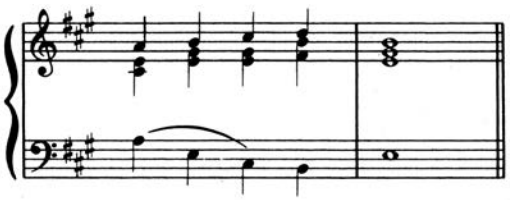
(b) minor



8. ***iii as Equivalent to I⁶.*** In both modes, the mediant is related to I^6 through the contrapuntal motion 5-6 above a stationary bass (like IV and ii^6, or vi and IV^6). Sometimes, therefore, iii can occur in contexts where the bass would usually suggest I^6. Such is the case in the opening of Bach's Chorale 365 (Example 16-12a) as well as in the other progressions of 16-12. In most situations where a choice between I^6 and iii exists, I^6 is preferable; by unequivocally prolonging tonic harmony, I^6 can help to define the tonality. But iii can be preferable when the stepwise descent $\hat{8}$-$\hat{7}$-$\hat{6}$ in the soprano or in an inner voice is wanted or when excessive repetitions of $\hat{1}$ in any of the upper voices would otherwise result.

16-12 *iii related to I^6*

(a) Bach, Chorale 365

(b)

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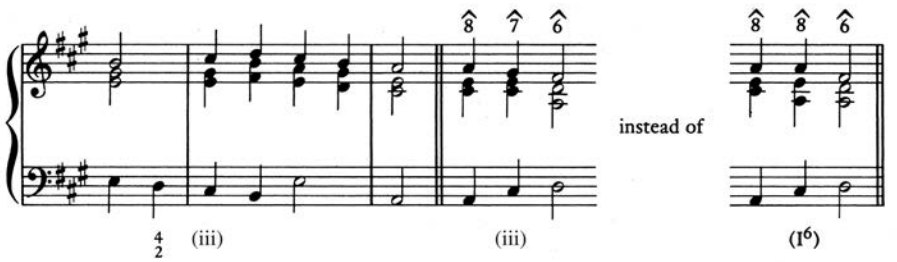
(c) (d)



As a general rule, avoid moving from I to iii in weak-to-strong rhythm. Because of the lack of tonal contrast, chord succession by ascending 3rd sounds almost like motion within the same chord; using it to move from a weak to a strong beat tends to contradict the meter.

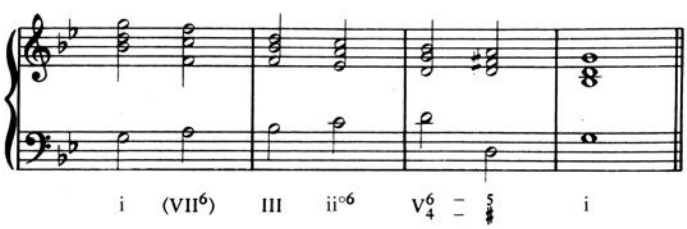
9. *III in Minor as an Augmented Triad.* III does not tend to move directly to i. In minor, therefore, there is usually no reason to raise $\hat{7}$ when it is part of III. This means that the augmented form of III—derived from the harmonic form of the minor scale—does not play an important role in pieces written in minor. Most of the apparent instances of III as an augmented triad are in $\frac{6}{3}$ position and express dominant rather than mediant harmony (see Unit 19, Section 8).

Uses of VII

10. *Natural VII Leading to III.* Example 16-1 shows root-position VII in minor (natural form) as V of III. This is an important usage. In first inversion, as in Example 16-13, the chord leads from i to III by stepwise ascent (passing function) and provides a new way to move from i up to V. The passing tone in the Brahms Intermezzo makes possible a stepwise soprano line as well.

Notice that two forms of VII^6 are now available in your harmonic vocabulary: the first inversion of VII from the natural minor scale (the subtonic) and the first inversion of the leading-tone triad (vii^{o6}). The choice depends on the goal of the motion and the leading tone necessary to establish that goal. If the progression moves to i^6, then the leading-tone vii^{o6} is the correct choice; otherwise, a motion to III requires VII^6 (compare the progressions in Examples 16-13a and b).

16-13 *i-VII^6-III in minor*

(a)

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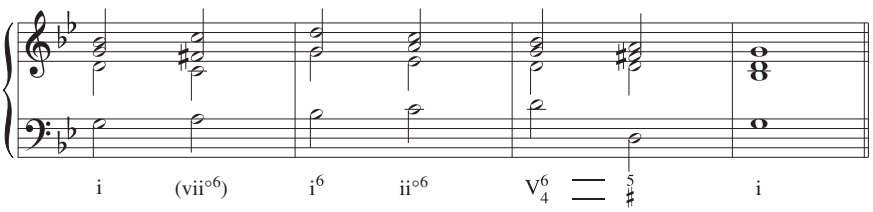
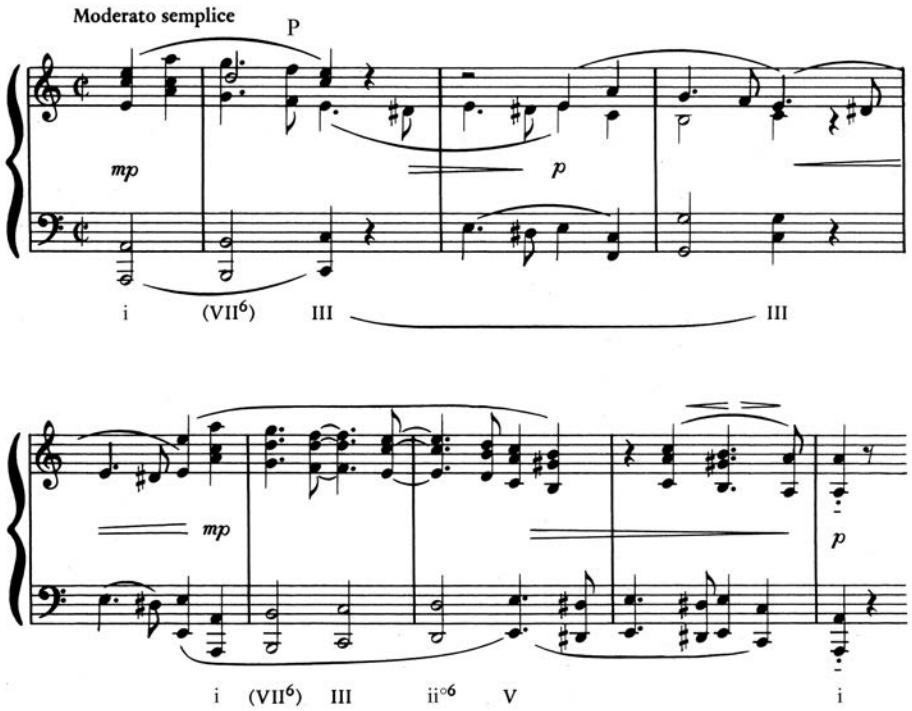


(c) Brahms, Intermezzo, Op. 76/7



11. *Natural VII Leading to V.* Sometimes—especially in Baroque music—natural VII in the minor mode appears as a chord leading to V or, more often, to V^7. Because its two upper tones also belong to V^7 and because its lowest tone needs only a chromatic inflection to become the 3rd of V^7, natural VII becomes absorbed into the V^7 chord. Because of the contrast between natural $\hat{7}$ and raised $\hat{7}$, on the one hand, and the common tones, on the other, the progression natural VII-V^7 can sound both unexpected and, in retrospect, logical. And the chromatic inflection of $\hat{7}$ can produce a particularly expressive effect. Natural VII often moves chromatically to i through V^6 or V^6_5, as in Example 16-14.

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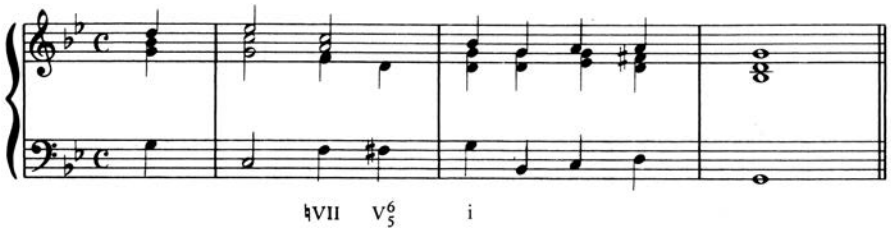
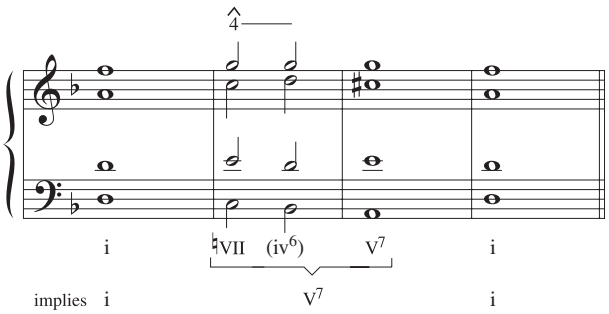
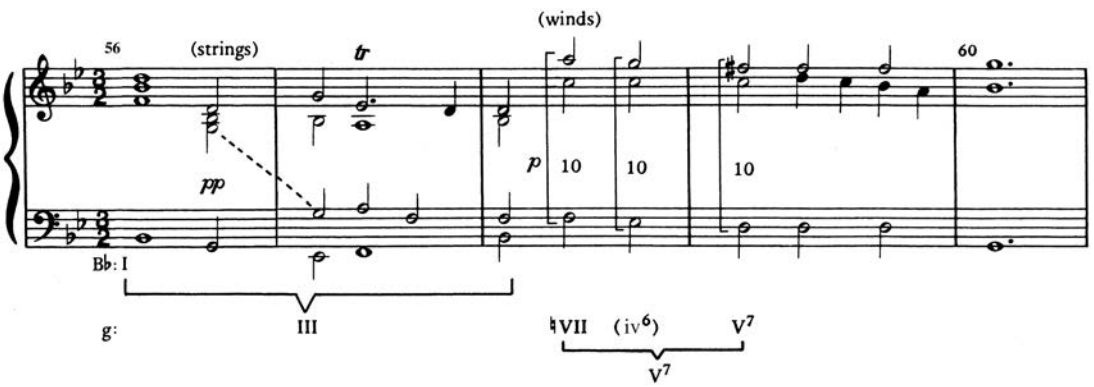
16-14 ♭VII-V^6_5-*i*

Very often natural VII and V^7 are connected by a passing iv^6 (Example 16-15). This can produce a stepwise descending bass moving from I to V^7. The 5th of natural VII ($\hat{4}$) forms a good preparation for the 7th of V^7 and frequently appears in the soprano voice.

16-15 ♭VII-iv^6-V^7



In Example 16-16, natural VII (bar 58, beat 2) follows a tonicized III and initiates a progression that leads back to the tonic of the home key. Note that the soprano forms parallel 10ths with the bass—another characteristic top-voice line.

16-16 *Handel, Concerto Grosso, Op. 3/1, II*



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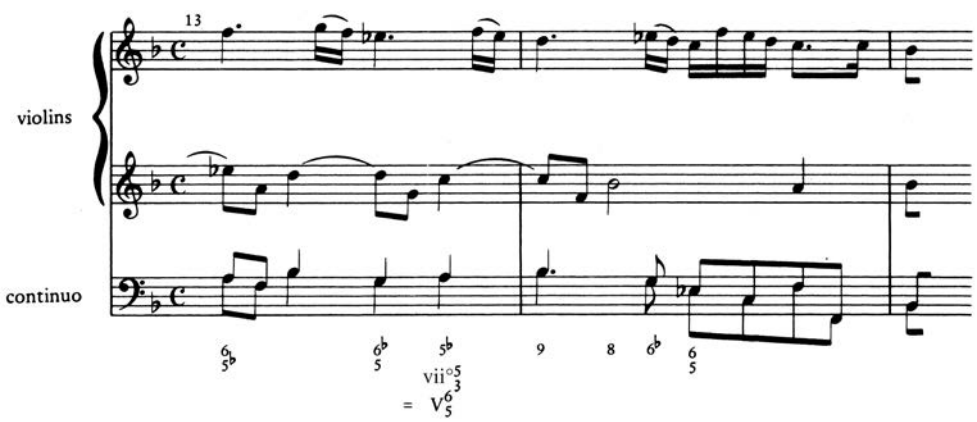
12. vii°$\frac{5}{3}$ in Major; Raised vii°$\frac{5}{3}$ in Minor. Diminished triads on the leading tone are seldom satisfactory in $\frac{5}{3}$ position. As we shall see in Unit 18, the diminished triad occurs freely in some sequential passages. In most other situations, V^6_5 (which contains all three tones of the diminished vii) creates a far more pleasing sonority and is to be preferred. In three-part writing, however, V^6_5 sometimes proves impracticable, and vii°$\frac{5}{3}$ forms the only possible alternative.

In the trio sonatas of the Baroque period, vii° chords sometimes appear in the three-part setting formed by the two melody instruments and the bass. This occurs in a passage from Corelli (Example 16-17) where vii° clearly represents an incomplete V^6_5; the 6th above the bass tone must be sacrificed to allow the resolution of the dissonant 5th of the preceding IV^6_5 chord. A good continuo player, however, would supply the missing 6th in the accompaniment, knowing that composers of the period frequently wrote 5♭ as an abbreviation for $\frac{6}{5\flat}$.*

16-17 *Corelli, Sonata V, Op. 1, Allegro*

In four-part writing, IV^6_5 is generally best followed by V^6_5; occasionally vii°$\frac{5}{3}$ will occur for the sake of a smoother line in the inner voices. In Example 16-18, the vocal parts form a diminished $\frac{5}{3}$; Bach's figures expressly indicate that the missing 6th should be played in the continuo accompaniment. Note that Bach doubles the 3rd of the diminished chord; this is the preferred doubling—the 3rd being the one tone not involved in any dissonant relationship.

*See C. P. E. Bach, *Essay on the True Art of Playing Keyboard Instruments,* translated and edited by William J. Mitchell (New York: W. W. Norton, 1949), pp. 222, 243–252.

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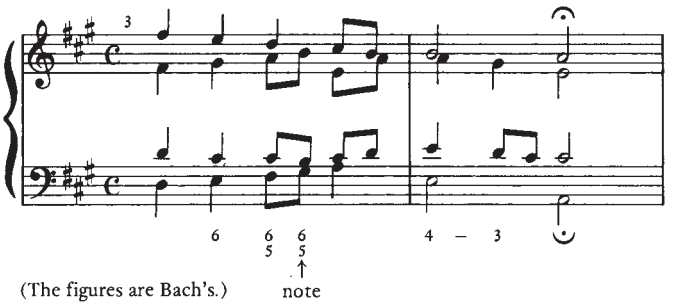
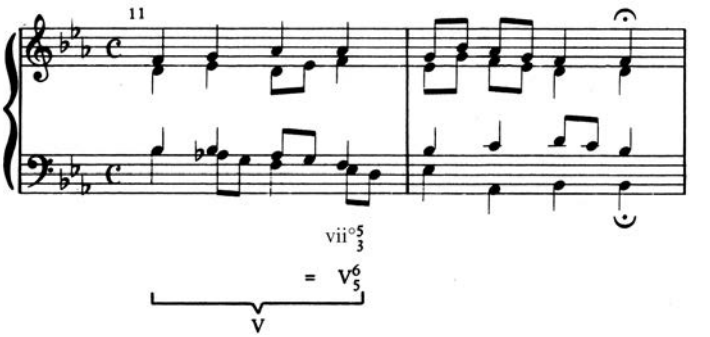
16-18 *Bach, Chorale 83*



In Example 16-19, also from a Bach Chorale, the first bar consists of an extended dominant chord; the bass moves down a 6th from the root to the 3rd while the top voice ascends from $\hat{2}$ to $\hat{4}$. Normally, the last beat of this bar would contain a $\frac{6}{5}$ chord. Here, however, Bach allows the tenor to accompany the bass at the upper 3rd, creating a "polarized" texture (SA up, TB down). This prevents the tenor from sounding the 6th, B♭, of the V^6_5 and produces a diminished $\frac{5}{3}$ as a substitute. Because it grows out of the strong V at the beginning of the bar, the diminished chord would be heard as representing a V^6_5 even if the continuo player failed to provide the missing 6th (the bass is unfigured).

16-19 *Bach, Chorale 22*

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POINTS FOR REVIEW

1. In minor, III frequently leads from i to V in a large-scale harmonic progression.
2. III is typically introduced by natural VII, which will function as V of III. Other (relatively) frequent possibilities are V^7 of III and vii^{o6} of III.
3. III is often expanded into a key area and generally moves to V through a passing iv or ii^{o6} (descending stepwise soprano).
4. In major, a large-scale I-iii-V is less common, as chromatic alteration is necessary to tonicize iii. As in minor, iii in major typically progresses to V through a passing IV or ii^6.
5. III, in either a large- or small-scale progression, can move through an inverted V ($\frac{4}{3}$, $\frac{6}{3}$, or $\frac{6}{5}$) to i. In this progression, which is most frequent in minor, no intervening chord is necessary between III and V, and a *cross-relation* (a chromatic succession split between two different voices) is acceptable if not between soprano and bass.
6. The most important small-scale use of the mediant is to support $\hat{7}$ in a descending soprano line while leading the bass from I (or vi) to IV. In minor, the progression III-VI-ii^o-V-i is also possible. In either mode, the mediant can sometimes function as a substitute for I^6.
7. III in minor with raised $\hat{7}$ (III as augmented triad) should be avoided for now.
8. In minor, natural VII often leads to III and functions as its dominant. In $\frac{6}{3}$ position, VII^6 forms a logical passing chord between i and III; the bass line will often continue by step to V.
9. Natural VII in minor can lead up to i through a chromatically inflected bass supporting V^6 or V^6_5. It can also lead to V^7 through a descending bass with a passing iv^6; typical sopranos are repeated $\hat{4}$ and parallel 10ths with the bass.
10. Because of their poor sonority, $vii^o\frac{5}{3}$ in major and raised $vii^o\frac{5}{3}$ in minor are to be avoided; a leading tone in the bass should usually support V^6_5. Sometimes, however, especially in three-part texture, $vii^o\frac{5}{3}$ substitutes for V^6_5.

EXERCISES

1. Preliminaries. Write the following progressions:
   a. III moves to root-position V through a passing iv or ii^{o6} (minor only—two versions).
   b. III moves contrapuntally through an inversion of V^7 to i (minor only—two versions).
   c. $\hat{8}$-$\hat{7}$-$\hat{6}$ over I-(iii)-IV in major; in minor, i-III-iv.
   d. III-VI leads to a cadence (minor only).
   e. i moves to III through a passing natural VII^6 (minor).
   f. i moves to III through a natural $VII\frac{5}{3}$ (minor).
   g. Natural VII moves to V^7 through a passing iv^6 (minor).
2. Phrase writing. This might be an appropriate time to write a phrase whose inner groupings are not all in twos and fours. Start (in minor) with a *three-bar* expansion of the tonic that contains three basic chords, allowing one

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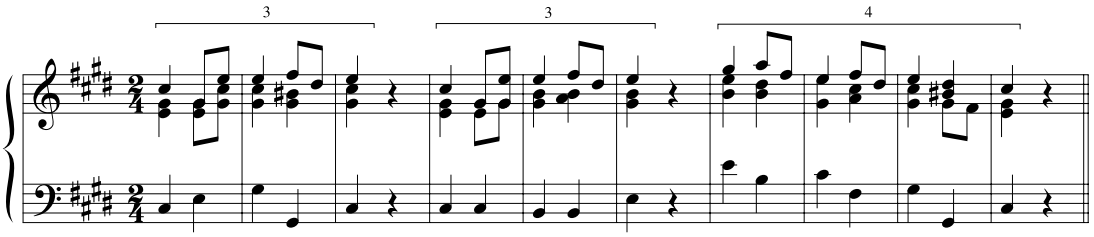
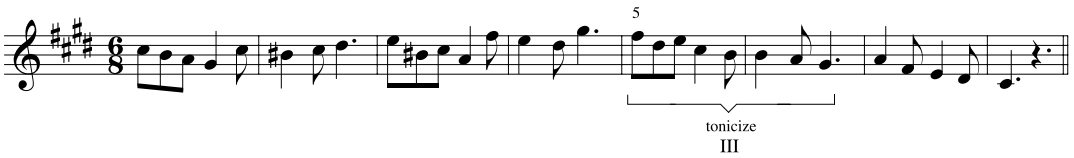
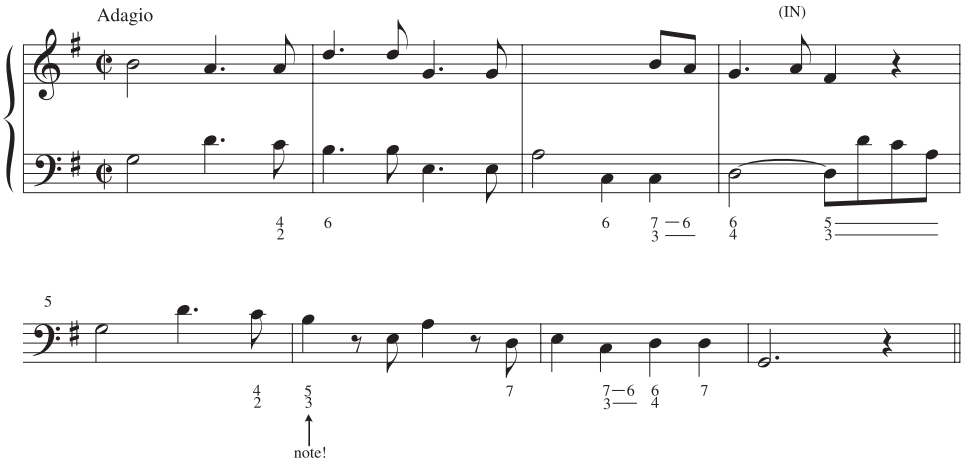
bar for each chord. (If one of the basic chords is a V, you might embellish it with a cadential $\frac{6}{4}$). Continue with a similar (or even identical) melodic line, also three bars in length but leading to tonicized III. Continue and conclude with a *four-bar* group, leading the III to a V-i cadence in the tonic key by moving through iv, ii^{o6}, or ii$^{\varnothing}\frac{6}{5}$. Thus, the phrase will contain 10 bars, divided into 3+3+4. See the following sample solution.



3. Melody.

4. Figured bass. Add inner voices and complete.



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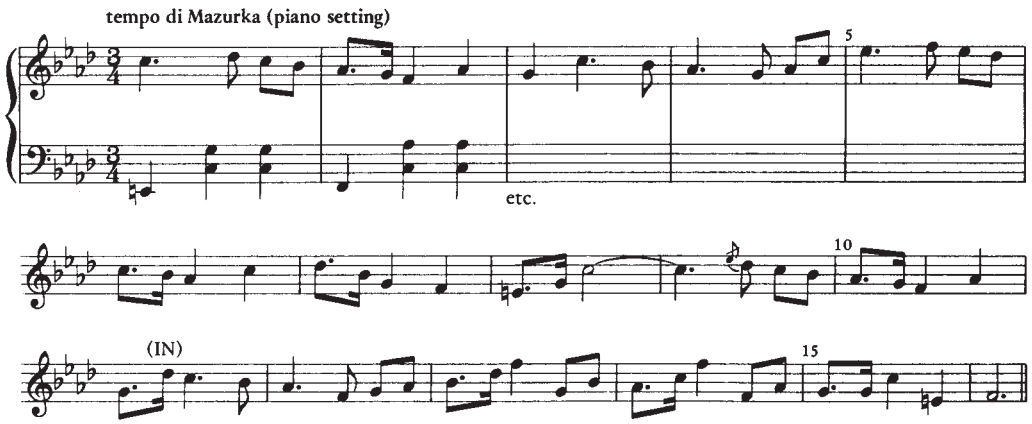
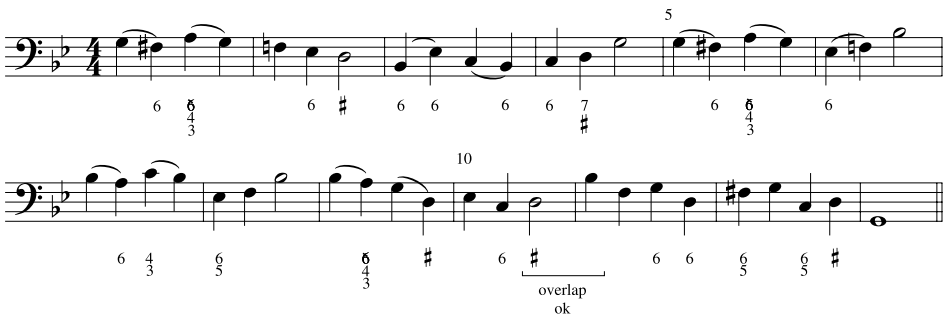
5. Melody. Continue the left-hand pattern.



MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

6. Figured bass. Find a soprano line that will work for both bars 1–4 and 5–8.



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PART III

$\frac{5}{3}$, $\frac{6}{3}$, and $\frac{6}{4}$ Techniques

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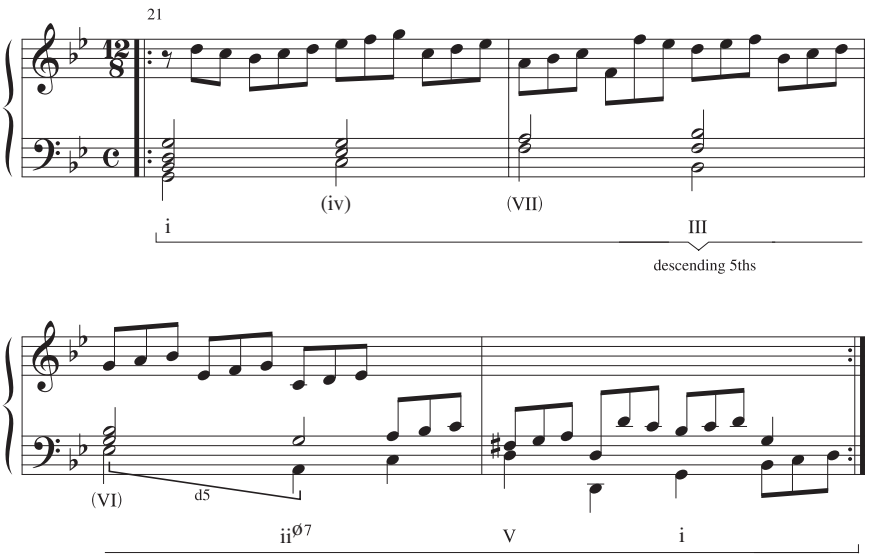
UNIT

17

$\frac{5}{3}$-Chord Techniques

17-1 *Handel, Passacagli* *(from Harpsichord Suite No. 7)*

Progressions by 5ths and 3rds

Now that all seven diatonic triads have been introduced, we can begin to deal with some new procedures of harmony and voice leading and to broaden the application of those we have already discussed. For the moment, we will discuss

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$\frac{5}{3}$ chords only; later units will show how the principles investigated here apply to work with other chords.

1. ***The Principle of Descending 5ths.*** The basic harmonic progression is motion by 5th, and descending 5ths (V-I, ii-V, vi-ii, etc.) are strongly goal oriented. Consequently, we can form a logical harmonic succession by arranging a group of triads in the order of descending 5ths. Sometimes, in fact, we encounter all seven triads so arranged: I-IV-vii°-iii-vi-ii-V-I. When the complete progression occurs in a composition, some of the descending 5ths will appear in inversion as ascending 4ths to keep the bass in a reasonable register. We can see this quite clearly in Example 17-1. In the complete series of descending 5ths, one diminished 5th (or its inversion, the augmented 4th) must appear. In major, it occurs between IV and vii°; in minor, between VI and ii°. Without this diminished 5th, tones foreign to the key would appear, threatening the centrality of the tonic. Thus, in Example 17-1, substituting a perfect 5th for the diminished 5th would produce the bass line E♭-A♭-D♭-G♭ instead of E♭-A-D-G. In a chain of descending 5ths, some chords may be more significant than others. In the Handel piece, the emphasized chords are i (beginning of motion, full voicing), III (low bass register, return to initial melody tone), and the cadential ii^{ø7}-V-i (end of motion, bass register, increased rhythmic activity). The other chords do not function on an equal level of importance; iv and VII form a transition from i to III, and VI leads from III to the final cadence.

   The technique of descending 5ths is a most useful and important one. Variants of it can accommodate triads in $\frac{6}{3}$ position and seventh chords as well. This technique lends itself to contrapuntal elaboration of various kinds, ranging from suspensions to canonic imitation. And with chromatic alterations, the technique can produce applied dominants and can help to effect modulations. In later units, we shall often use this technique.

2. ***The Principle of Ascending 5ths.*** Progressions of ascending 5ths occur much less frequently and play a much less important role in tonal composition. This is because they are not strongly goal directed: in a motion from I to V, for example, the V is heard as an outgrowth of the I, and it tends to resolve back to I as its point of origin. The complete progression in rising 5ths—I-V-ii-vi-iii-vii°-IV-I—is virtually useless, for the chords before the final I do not establish it as a goal. However, segments of the progression can lead convincingly to chords other than the tonic. The two main possibilities are I-V-ii-vi-iii in major (to be illustrated in Unit 18) and III-VII-iv-i-V in minor, as shown in Example 17-2. Both of these possibilities avoid the diminished triads vii° in major and ii° in minor. In the less directional environment of these progressions, tritone dissonances are much more obtrusive than in the series of descending 5ths.

   Example 17-2 shows the first two phrases of a Bach Chorale. The ascending 5ths lead from III (tonicized in the first phrase) to the cadential V. The main link between III and V is, typically enough, the E-minor chord, iv. The stepwise line III-iv-V fits into the larger harmonic scheme; these chords take precedence over VII and i, whose function it is to make a smooth connection from one main chord to the next. In general, as in this phrase, a series of ascending 5ths consists of a rising stepwise line decorated harmonically by the upper 5ths of the main chords. In this example, consequently, the i chord before the cadential V is a i in name only, not in behavior, for it does not form part of the harmonic framework.

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17-2 *Bach, Chorale 265*

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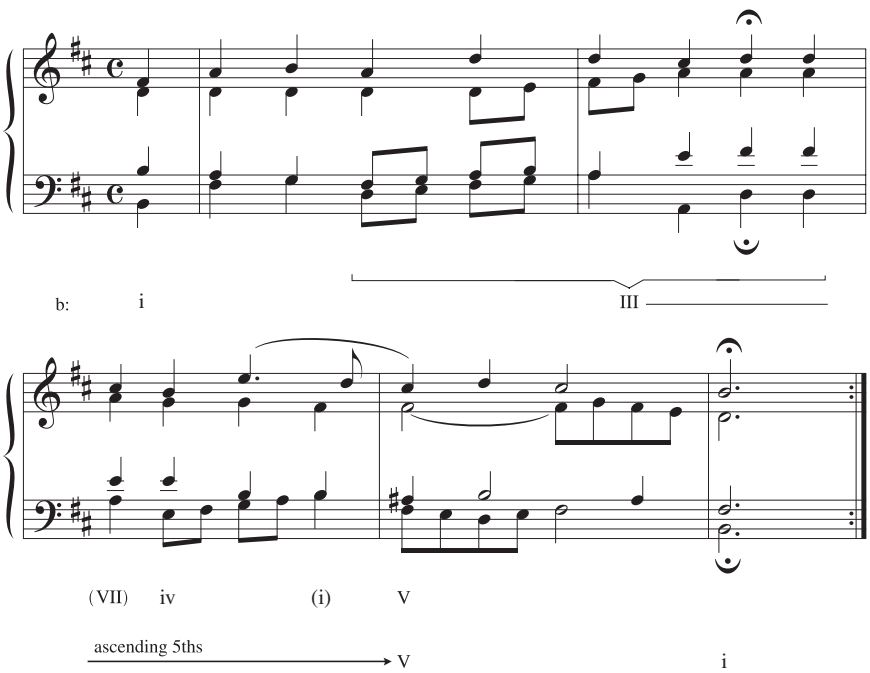
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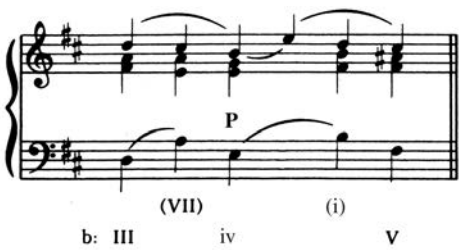

3. *Bass Motion by 3rds.* We already know two important examples of this technique: I descending through vi to IV (or ii^6) and I rising through iii to V (i-III-V in minor). Progressions like I-vi-IV and I-iii-V connect the beginning and goal chords by means of arpeggiation. In I-vi-IV, the bass line arpeggiates the goal chord (in C major, C-A-F or IV); when the goal arrives, the ear connects it with the preceding bass motion, which it sums up. In I-iii-V, the bass line arpeggiates the beginning chord (in C major, C-E-G or I); the V, therefore, does not sound so much like a goal. And, as we saw in Unit 16, the root of each new chord has already appeared in one (or even two) of the preceding chords, so the chord's impact is weakened. For this reason, I-iii-V does not usually occur in immediate succession without intervening chords (such as ii^6 or IV between iii and V). In progressions by rising 3rds other than I-iii-V, the intervening chords are usually applied dominants (Unit 26, Section 18).

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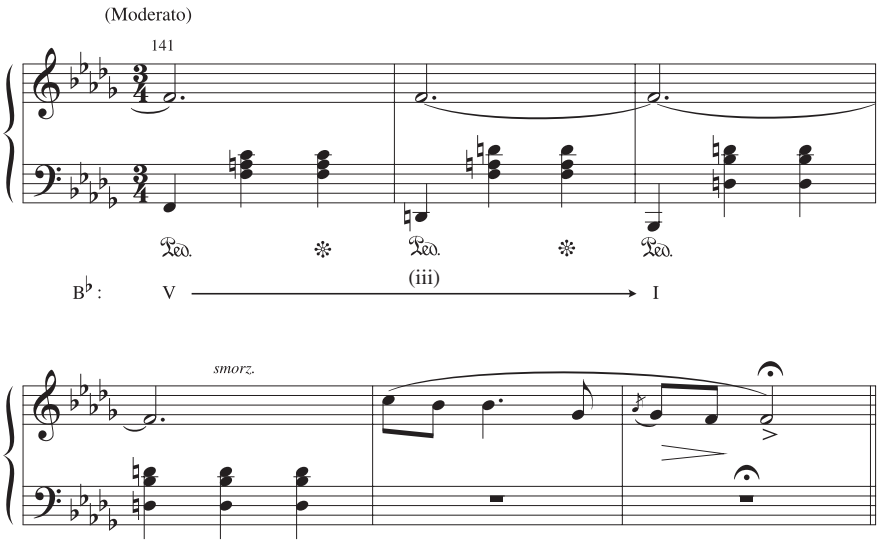
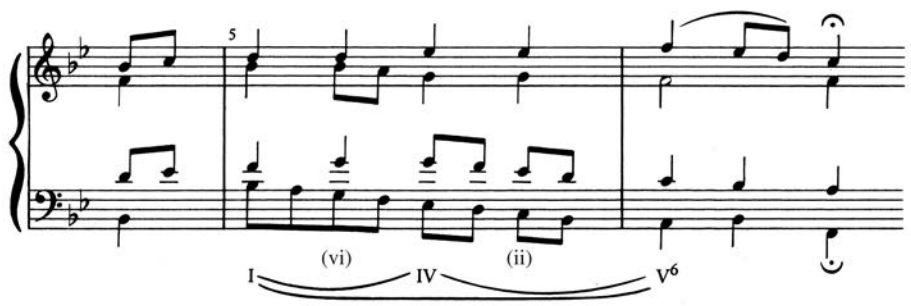
An interesting instance of descending 3rds occurs at the end of a Chopin mazurka (Example 17-3), where the bass moves from V through iii to I; the motion as a whole arpeggiates I. The iii chord, as a divider between V and I, sometimes appears before reprise sections and sonata recapitulations, but its appearance at the end of a piece is quite unusual; here it emphasizes the major tonic with which this mazurka in B♭ minor ends, by bringing $\hat{3}$ into the bass (the final tonic is major due to modal mixture; see Unit 24).

17-3 *Chopin, Mazurka, Op. 24/4*



A more extended motion in descending 3rds occurs in a phrase from Bach's Chorale 101 (Example 17-4). Here, the bass moves down a 9th from I to V^6. Passing tones create a completely stepwise bass line, but the organization of this stepwise motion by 3rds can be clearly heard. As the slurs connecting the Roman numerals show, the motion of a 9th is subdivided by E♭ (IV) into two stages; the IV is emphasized by meter and by change of melody tone. In the first stage, vi connects I and IV; in the second, ii connects IV and V^6.

17-4 *Bach, Chorale 101*



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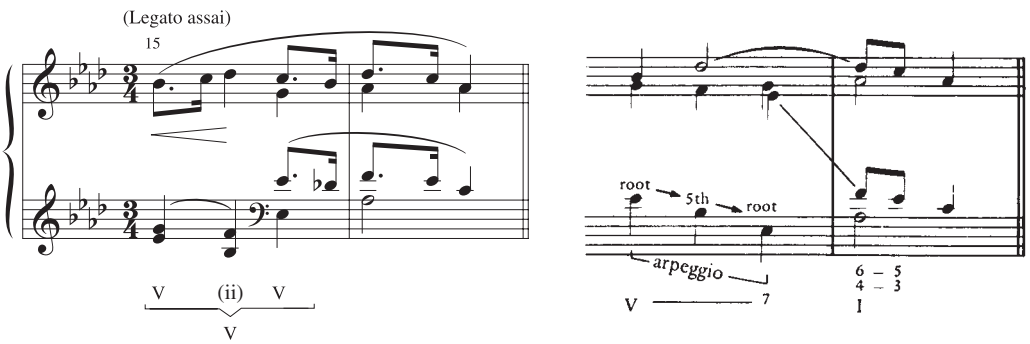
One sometimes encounters bass motions by descending 3rds leading down a 7th from I to ii; such motions can be considered the *inversion* of a more direct (and shorter) ascending motion from I to ii (the upward step of a 2nd is inverted to a 7th). Example 18-1, bars 1–2, will show such a progression in slightly elaborated form.

4. Chords Built on the Upper 5th. Example 17-5 shows a beautiful Chopin cadence. A literal interpretation of the first bar as V-ii-V^7 would be correct as far as it goes, but it would tell us little about the meaning of the (ii). This chord does not fulfill the usual function of supertonic harmony—to lead to V—for it appears *after* the cadential V has already been introduced. Furthermore, this (ii) does not *sound* like a harmonic entity but, rather, like the result of motion within the expanded V. Therefore, we can best understand it as the upper 5th of V, arrived at through a bass progression down from root to 5th to root. While the bass moves down through chordal tones, the melody moves up a 3rd to prepare the 7th of dominant harmony. The principle illustrated here can be applied to other chords; thus, (I) can function as the upper 5th of IV, (vi) as the upper 5th of ii, and so on. Compare the progression in ascending 5ths in Example 17-2.

17-5 *Chopin, Mazurka, Op. 17/3*

(a) *(b) reduction*



Note: Chopin's cadence provides a good illustration of the principle that not every chord can be taken at face value as a harmonic entity. The possibility of a chord's functioning primarily as part of another, more extended, chord, as in the Chopin, is one you should bear in mind.

5. Chords Built on the Upper 3rd. A phrase from another Chopin mazurka (Example 17-6) shows a progression from a chord of B major to one of D♯ minor and (at the beginning of the next phrase) back to the B chord. Here, too, a literal analysis (I-iii-I in B major) would fail to capture the specific meaning of the chord progression. Like the (ii) of the preceding example, the (iii) of this one is best understood as resulting from a motion within the governing

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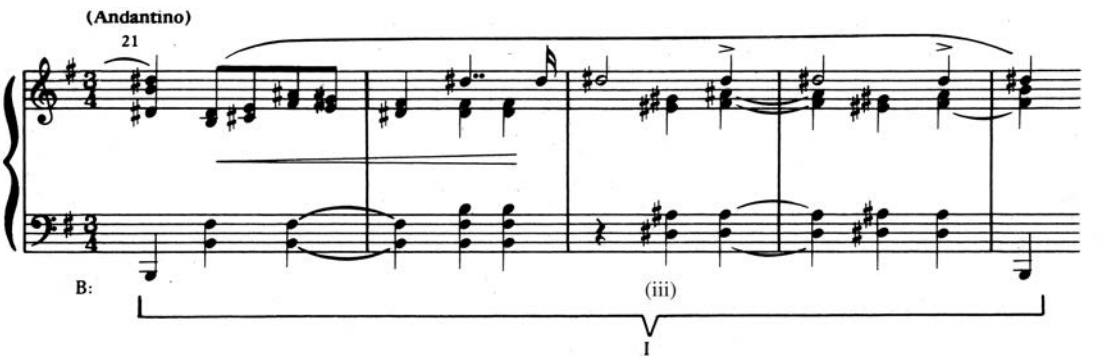
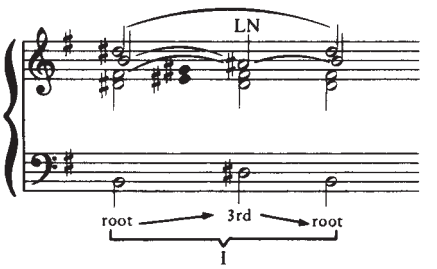
B-major chord, only this time between root and 3rd rather than between root and 5th. It helps to extend the tonic much as I^6 might, a further instance of the connection between iii and I^6 mentioned in the preceding unit. The use of iii as upper 3rd of I, IV as upper 3rd of ii, vii° as upper 3rd of V, and so on, represents another important chordal function. Nineteenth-century composers sometimes wrote progressions that move back and forth between two $\frac{5}{3}$ chords with roots a 3rd apart—such as ii-IV-ii or IV-vi-IV. This sort of oscillating movement within a 3rd is not characteristic of eighteenth-century music.

17-6 *Chopin, Mazurka, Op. 41/2*

(a)



(b) reduction



Contrapuntal Chord Functions

6. ***Chords as Voice-Leading Correctives.*** Understanding that chords can act as voice-leading correctives—that is, that they can break up parallel 5ths and octaves—can help you reduce the number of errors in your written work. Much more importantly, it can deepen your awareness of the interplay between harmony and voice leading in great music—voice leading as the composers conceived it, not narrowly, chord by chord, but comprehensively, over both small and large musical spans.

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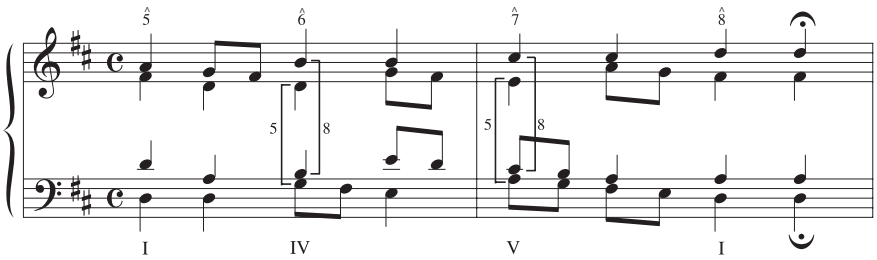
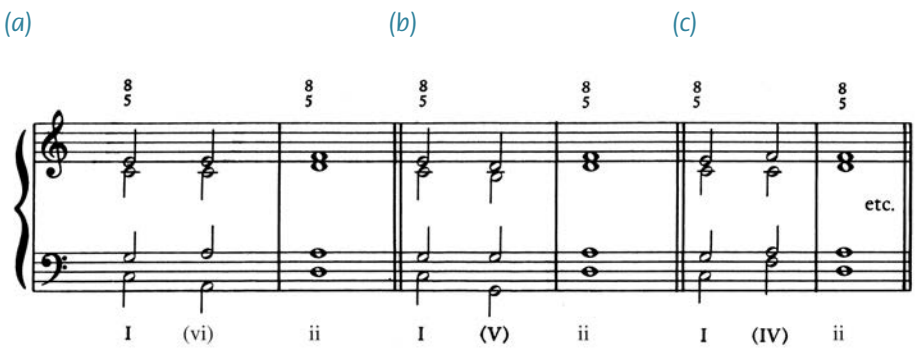
The first phrase of Bach's Chorale 280 (Example 17-7) illustrates how a chord can prevent voice-leading errors. The melody contains, in slightly decorated form, the progression $\hat{5}$-$\hat{6}$-$\hat{7}$-$\hat{8}$; the main harmonies are I, IV, V, and I. We know from Unit 10 that a motion from IV to V entails the risk of parallels unless the upper voices move down, not up as they do here. And indeed, if we glance from IV to V, we shall soon find the parallels: 5ths between bass and alto, octaves between tenor and soprano. We do not *hear* the parallels because of the ii on the fourth beat of the first bar; this chord interpolates a 10th between the 5ths and a 5th between the octaves. In addition to permitting good voice leading, the ii here plays its characteristic harmonic role of intensifying V.*

17-7 *Bach, Chorale 280*



In this connection, look again at the beginning of Beethoven's "Spring" Sonata and the reductions in Example 12-3. In addition to its harmonic function, the vi chord of bar 3 breaks up parallels between I and ii (compare bars 1 and 4). The voice-leading function of vi is frequently a factor in the progression I-vi-ii-V-I. Example 17-8 supplements the Bach and Beethoven excerpts by showing some other important possibilities. Voice-leading chords can be particularly useful in progressions involving chords with roots a 2nd apart (such as I-(vi)-ii), but their use is not restricted to such situations. We will return to voice-leading chords later to discuss other functions they often fulfill.

17-8 *voice-leading chords*



*The brief doubled leading tone at the beginning of measure 2 results from the imitation in the tenor of the motivically important descending passing motion in the bass.

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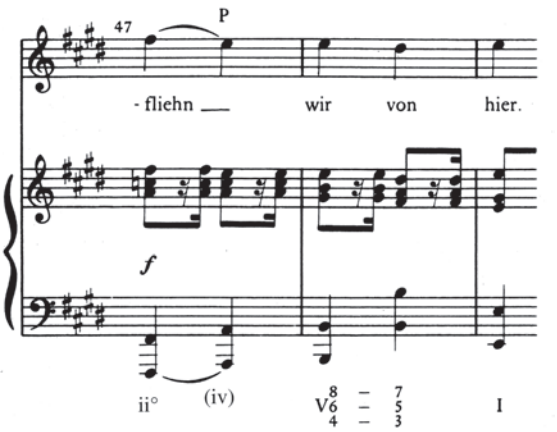
7. *Chords as Support for Passing Tones.* Some chords function mainly as support for passing tones in an upper part, usually the soprano. We have already encountered this chord function, most recently in connection with iii as support for $\hat{7}$ in $\overset{\hat{8}\text{-}\hat{7}}{\text{I-iii}}\ \overset{\text{-}\hat{6}\text{-}\hat{5}}{\text{-IV-I}}$ (see Unit 16). Example 17-9 from a Brahms lied (song) demonstrates an exactly analogous use of IV. An extension of the preceding ii°, rather than a self-sufficient harmony, the iv gives support and a measure of emphasis to the passing tone, E, of the melody. If this chord were not there, the E would be a dissonant passing tone (7th) above the ii°; the iv transforms it into a consonance. Incidentally, the C♮ in the piano part is an element of E minor used in an E-major context, another instance of *mixture* (see Unit 24); the diminished $\frac{5}{3}$ chord emphasizes the sense of danger suggested by the text.

17-9 *Brahms, "Geliebter wo zaudert," Op. 33/13*



translation: (at night) we will flee from here

Quite often an apparent tonic—that is, a tonic in name but not in function—appears between IV and V to support a passing tone in the soprano. The characteristic soprano progression is $\hat{4}$-$\hat{3}$-$\hat{2}$; $\hat{3}$, of course, is the supported passing tone. This progression usually occurs when $\hat{3}$ is metrically weak; when it is strong, the cadential $\frac{6}{4}$ becomes possible. Example 17-10 illustrates (review Examples 9-14 and 9-15).

As mentioned previously, you should consider that a chord may function primarily as part of another chord. The progression IV-(I)-V—in which the "tonic" apparently returns before the goal V—is one that can organize both short progressions (as in Schubert's passage) and much longer spans of music. In some contexts, a recurrence of an extended tonic area may represent the upper fifth of IV in a large-scale motion from IV to V. As you examine broader harmonic plans, be aware that some passages in a home tonic may function subordinately to other expanded chords in a T-Int-D-T framework.

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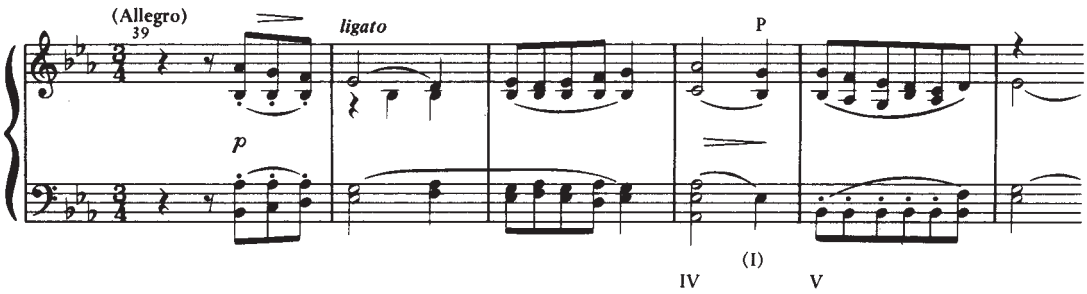
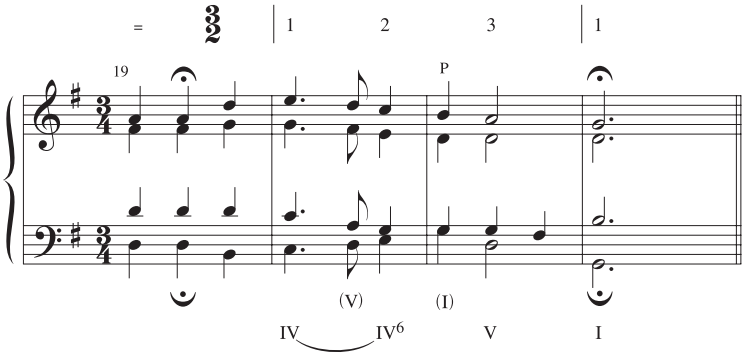
17-10 *Schubert, Piano Sonata, D. 958, I*

A V interpolated between I and vi frequently supports a descending passing tone in the soprano and may serve as a voice-leading corrective. Any bass progression of a descending 3rd can be similarly elaborated—for example, vi-(iii)-IV or IV-(I)-ii. We will see a very clear example of this technique in Example 17-18.

8. Chords above a Bass Passing Tone. In small contexts, $\frac{6}{3}$ or $\frac{6}{4}$ chords are often preferable to $\frac{5}{3}$'s as passing chords, especially when moving between the root position and first inversion of a triad. In connecting I and I^6, for instance, vii^{o6} generally works better than ii, whose greater stability and "weight" tend to contradict its transitional function (ii, furthermore, lacks a leading tone). For one reason or another, however, $\frac{5}{3}$'s do sometimes appear as short-range passing chords. In the last phrase of Bach's Chorale 102 (Example 17-11), the chord labeled (V) passes from IV to IV^6. A $\frac{6}{3}$ chord, with B in the tenor instead of A, would produce 5ths between the inner voices and is not a possibility here. The chord at the beginning of bar 21, incidentally, is not a functional tonic (compare to the apparent tonic in Example 17-10); it supports the passing tone B of the soprano. The hemiola rhythm makes us hear the B as an unaccented passing tone.

17-11 *Bach, Chorale 102*



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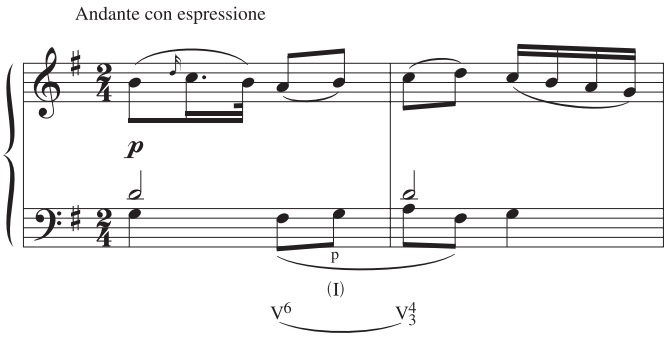
$\frac{5}{3}$ chords will more often appear above passing tones in the bass when the motion is within a seventh chord rather than a triad. A passing $\frac{5}{3}$ fits very naturally in the space between the $\frac{4}{3}$ and the $\frac{6}{5}$ positions, most typically in an expansion of V^7—also, sometimes, within ii^7. Another possibility is between V^6 and V^4_3 as in Example 17-12 (see also Example 9-15).

17-12 *Mozart, Piano Sonata, K. 311, II*



Stepwise bass motions can play an important part in creating continuity over longer spans; such bass progressions can be considered expanded passing motions. $\frac{5}{3}$ chords frequently appear in the course of such passing motions; thus, they function as passing chords. Look again at the Bach Chorale in Example 17-2 and its reduction in Example 17-2b: From a broad perspective the E-minor chord (iv) is built on a passing tone that connects the beginning of the stepwise motion, III, with the goal, V. Long-range passing motions, by their very nature, seldom proceed consecutively from one main chord to another. Subordinate tones and chords, such as the A-major and B-minor chords in 17-2, will appear between them.

9. *Chords as Support for Neighboring Tones.* $\frac{5}{3}$ chords often support neighbors—especially upper neighbors. Typically, the root of the neighboring chord is a 5th below that of the main chord: IV supporting upper neighbors within an expanded I is the most frequent and important possibility. The same relationship can extend to other chords; in Example 17-13 we see a (i) supporting neighbors within a prolongation of V; this (i), like several others we have observed in this unit, is not a functional tonic but a detail within the expansion of V.

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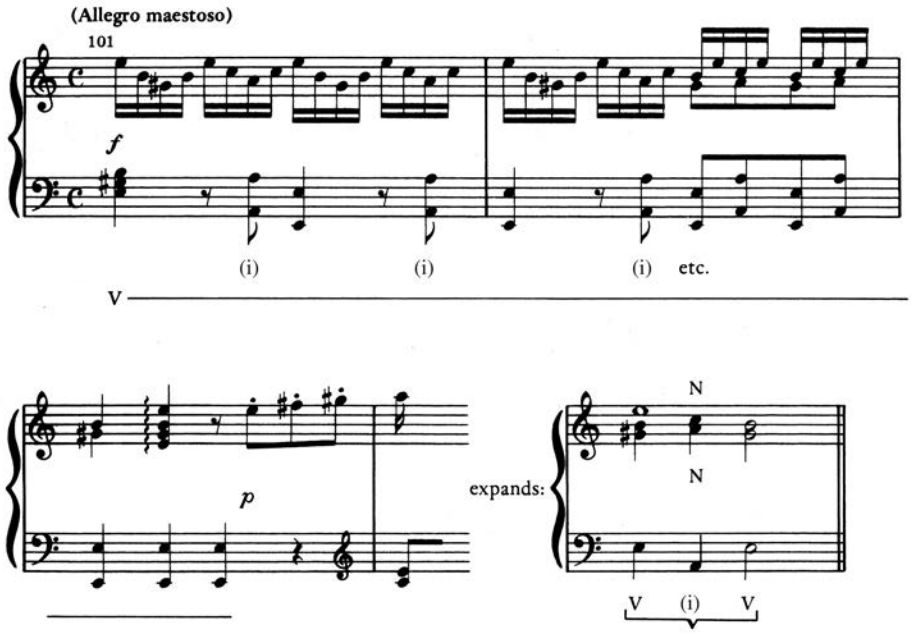
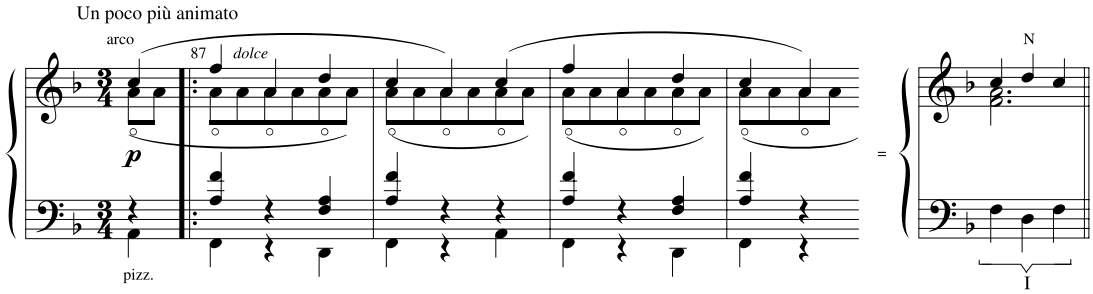
17-13 *Mozart, Piano Sonata, K. 310, I*



In some nineteenth-century music, starting around Schubert's time, we now and then find neighboring chords whose root is a 3rd below that of the main chord—I-vi-I, for example. The D-minor chord in Example 17-14 arises mainly as support for the D of the first violin part (upper neighbor to the 5th of I).

17-14 *Brahms, String Quartet, Op. 51/1, III*



10. *Chords above a Bass Neighboring Tone.* These are usually easy to recognize and do not require much discussion. In immediate chord successions, neighbors in the bass tend to support $\frac{6}{3}$'s rather than $\frac{5}{3}$'s (such as I-vii^{o6}-I rather than I-ii-I). This is because a series of consecutive root-position chords, especially where there are no common tones, does not create an effect of flowing motion. Over longer spans (with intervening chords), neighboring $\frac{5}{3}$'s become very useful. The most important possibility is vi as upper neighbor to V, an idiom that

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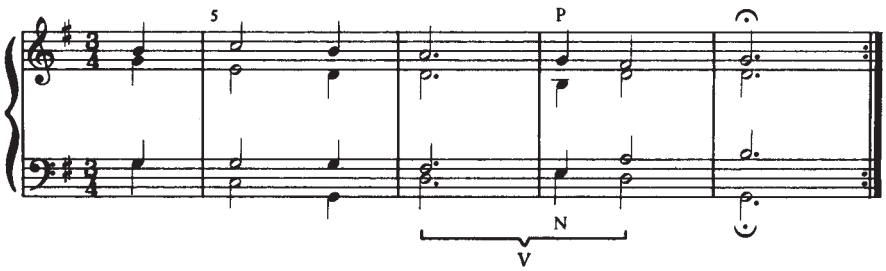
sometimes also occurs in immediate succession, as in Example 17-15. In this excerpt, vi also supports a passing tone in the soprano.

17-15 *Bach, Chorale 102*



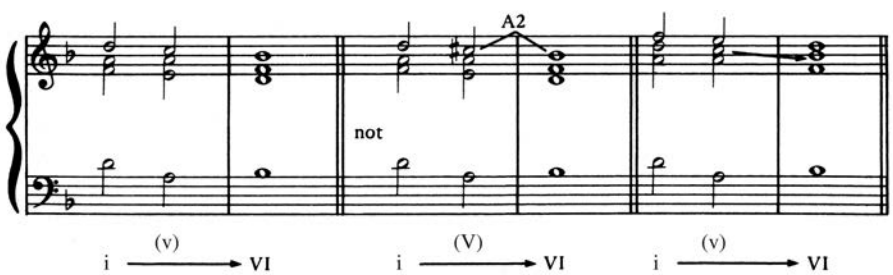
v as a Minor Triad

11. *V without a Leading Tone.* As we know, the natural form of minor generates a minor triad on the 5th scale step (symbol: v). Because it lacks a leading tone, v does not tend very actively toward i. This makes it ineffective in immediate dominant-tonic progressions and in situations where the expectation of i becomes a factor—in half and deceptive cadences, for example. In all such cases, the major form of V helps define the tonality much more clearly. Until now, therefore, we have employed V in minor only as a major triad.

12. *Minor v supporting the subtonic.* You will learn in Unit 27 that v often expands into a key area and participates, sometimes very significantly, in large-scale harmonic organization. Rather like the mediant, v functions far more typically as a structural pillar than as a decorative detail. But, again like the mediant, v does have one important and characteristic small-scale function: It forms a very good support for natural $\hat{7}$, usually as a descending passing tone in a progression from i to VI (or occasionally iv^6). As the minor-mode progressions in Example 17-16 indicate, the progression i-(v)-VI permits either major V (Example 17-16d) or v (17-16a and c). The choice depends partly on linear factors: a descent from $\hat{8}$ to $\hat{6}$ calls for v to forestall the unmelodic augmented 2nd, $\sharp\hat{7}$-$\flat\hat{6}$, whereas a neighbor-note motion $\hat{8}$-$\hat{7}$-$\hat{8}$ calls for raised $\hat{7}$ and, consequently, major V.

17-16 *minor or major v*

(a) *(b)* *(c)*



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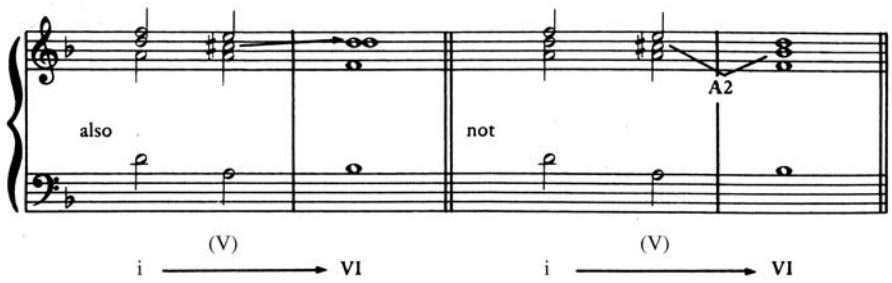
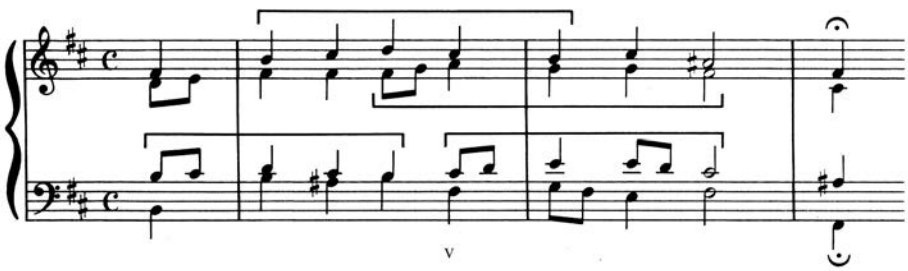
(d) (e)



13. *Choosing between Major and Minor V.* Sometimes v might be best because the color of the minor triad is appropriate to the passage or because using it produces an expressive contrast between natural and raised $\hat{7}$.

This expressive contrast is markedly in evidence in a chorale setting by Bach (Example 17-17). The alto's A♮, coming just two beats after a prominent A♯ in the bass, is most unexpected. Its use also gives a particular freshness to the A♯ of the cadential V. In this phrase, the use of natural $\hat{7}$ and, consequently, of the minor dominant relates directly to the motivic design. The brackets in the example point to a rising and falling 3rd, derived from the chorale tune. In connection with the alto figure, major V would be an impossibility: a line F♯-G♯-A♯ would demand a continuation to B, thus eliminating the rising 3rd. Another consequence of the motivic design is the use of iv^6, instead of the more usual VI, to follow v.

17-17 *Bach, Chorale 104*

14. *Minor v Leading to Tonicized III.* Another Bach setting of the same chorale (Example 17-18) shows the use of major V just where v appears in the other setting. Here, major V occurs in connection with a neighbor-note motion B-A♯-B (tenor, bars 1–2). In the opening phrase of this setting, there is no chromatic conflict between A♯ and A♮, but the chorale melody itself brings in a most unexpected A♮ at the beginning of the second phrase. The minor dominant that supports this note helps to prepare a tonicization of III, another important function of the minor dominant.

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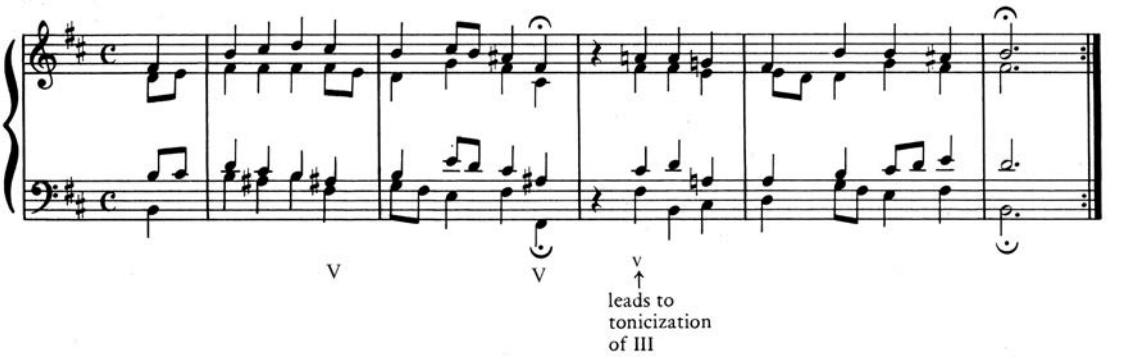
17-18 *Bach, Chorale 62*

FUNCTIONS OF MINOR V

1. Support for natural $\hat{7}$ in the progression i-(v)-VI (17-16a)
2. Expressive contrast with raised $\hat{7}$ (17-17)
3. Avoiding melodic A2 (17-16a, 17-16c, and 17-17)
4. Prepare tonicization of III (17-18)

POINTS FOR REVIEW

1. In the progression of descending 5ths, the bass line usually alternates descending 5ths and ascending 4ths. If the complete series of 5ths is used, a diminished 5th will occur between IV and vii° in major and between VI and ii° in minor.
2. The progression of ascending 5ths, which is much less goal oriented than that of descending 5ths, is basically a rising stepwise line:

   C (G) D (A) E

   The complete series I-I is virtually never used. An important partial series is III-VII-iv-i-V in minor.
3. Another important type of progression is bass motion by 3rds (bass arpeggio). Motion by descending 3rds (I-vi-IV, for example) is much more goal oriented than motion by ascending 3rds.
4. A chord can be expanded by motion to its upper 5th. For example, ii can expand V and I can expand IV.
5. Similarly, a chord can be expanded by motion to its upper 3rd—IV can expand ii and vi can expand IV, and so forth.
6. *Voice-leading chords* break up parallel 5ths or octaves. Such chords are especially useful between chords with roots a 2nd apart, for example, I-(vi)-ii.
7. Chords can be used to support passing tones in the soprano. Here is an important example: $\hat{4}$ - $\hat{3}$ -$\hat{2}$ IV-(I)-V.
8. Chords can be used above a passing tone in the bass. In a small-scale progression, $\frac{6}{3}$ and $\frac{6}{4}$ chords are most frequently used for this purpose. In a large-scale progression, IV can serve as a passing chord from iii to V, and so on (see Example 17-2b).

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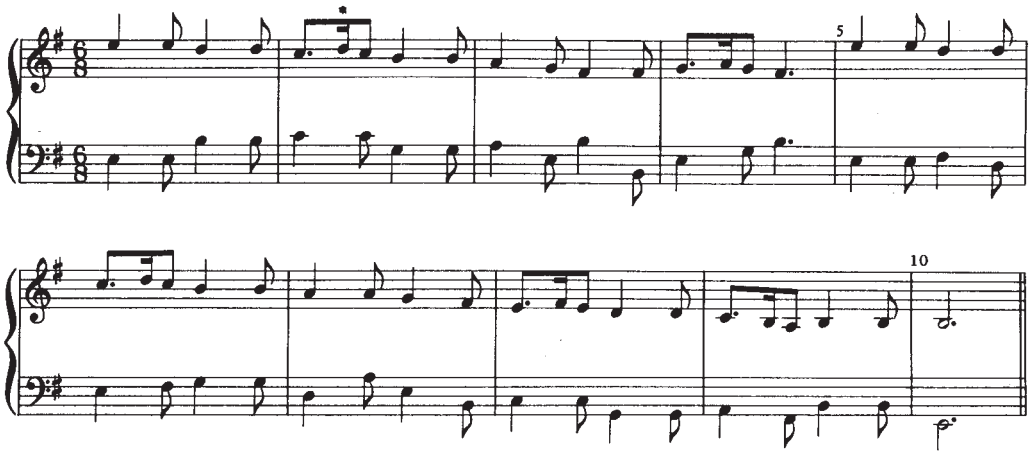
9. Chords can support neighboring tones in the upper voices. Such progressions as I-(IV)-I or V-(I)-V occur very frequently.
10. Chords can occur over neighboring tones in the bass. Over small spans, $\frac{6}{3}$ chords are most frequently used; over longer spans, $\frac{5}{3}$ chords are more frequent. Most important is vi as upper neighbor to V (or VI-V in minor).
11. An important function of minor v is to support $\hat{7}$ as a descending passing tone, where $\hat{7}$ helps to avoid an augmented 2nd. Minor v also prepares for the tonicization of III.

EXERCISES

1. Preliminaries. Write progressions in different major and minor keys that illustrate the following techniques:
   a. descending 5ths—entire series
   b. descending 5ths—part of the series
   c. ascending 5ths connecting III and V in minor
   d. descending 3rds connecting III and iv in minor
   e. descending 3rds connecting I and ii in major
   f. vi breaking up parallels between I and ii
   g. (I) supporting $\hat{3}$ as a passing tone
   h. (IV) supporting $\hat{1}$ as a passing tone
   i. (III or iii) supporting $\hat{7}$ as a passing tone
   j. V going twice to VI in minor, once with the dominant as a minor triad (v) and once with V as a major triad
   k. root-position (I) connecting V^4_3 and V^6_5; use two different sopranos
2. Incorporate (some of) the progressions of Exercise 1 into entire phrases.
3. Outer voices with unfigured bass. This exercise makes use of v as a minor triad; sometimes you will have to decide whether major or minor V is the better choice.

*don't harmonize any of the sixteenth notes

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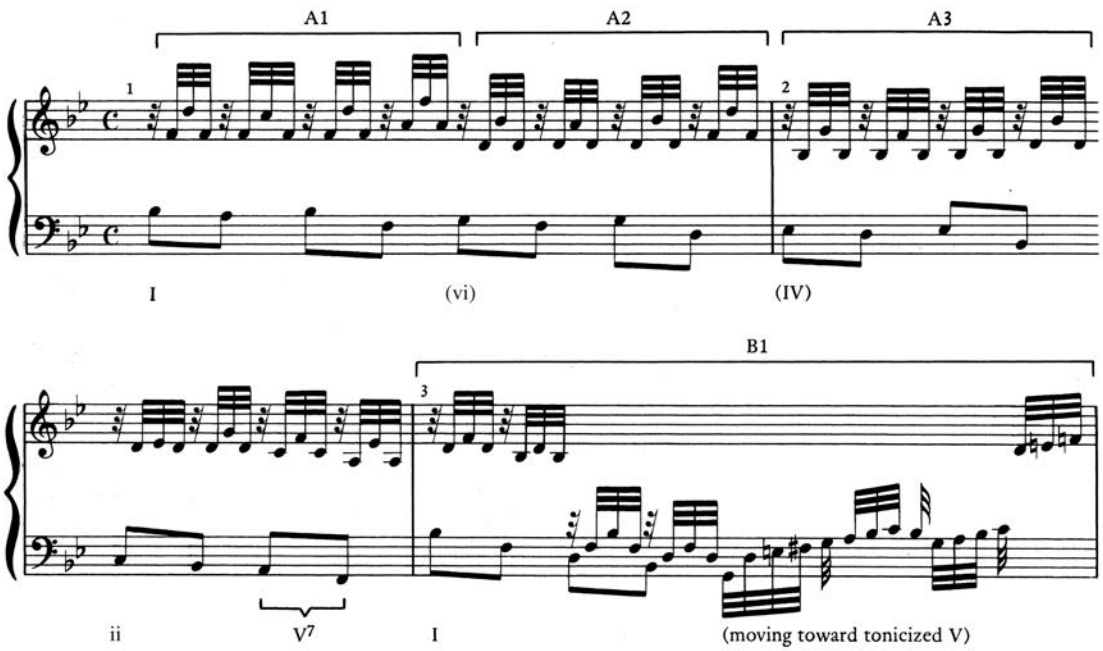
UNIT

18 Diatonic Sequences

18-1 Bach, *Well-Tempered Clavier I*, Prelude 21, BWV 846*

(a)



*See Appendix II for a reduction of measures 3 and 4.

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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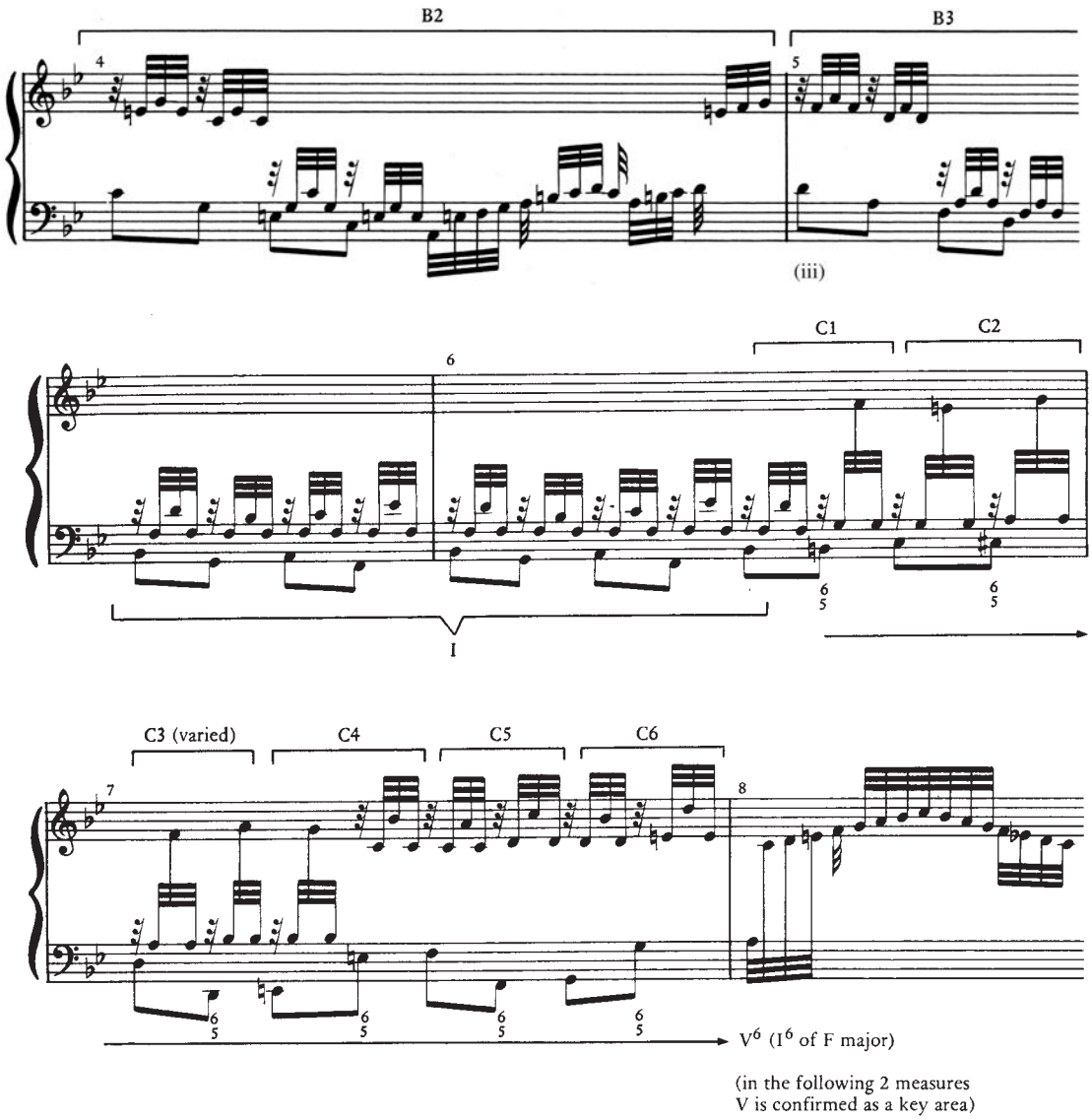
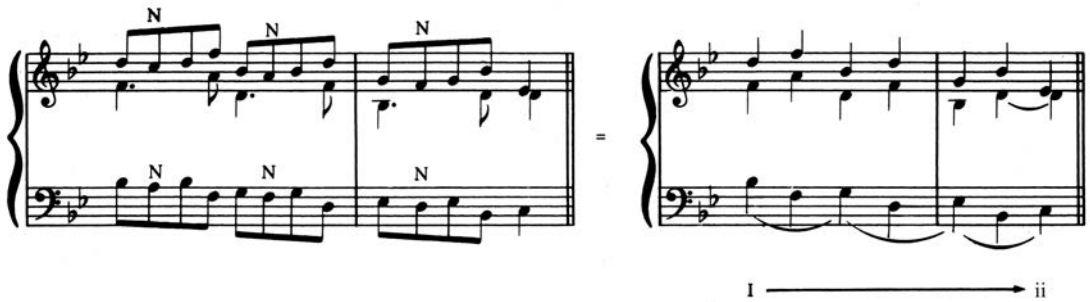


(b) reductions of Example 18-1



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Compositional Functions

1. ***Repetition.*** A crucial element—often, indeed, *the* crucial element—in musical design and form is repetition of a melodic or chordal pattern. If such repetitions occur on different scale degrees, the result is called a *sequence.* Maintaining the same musical idea (sometimes with slight variations) establishes a connection between the beginning and the end of the sequential passage and creates the possibility for expansions—some on quite a large scale—of many of the techniques we have already discussed.

   The expansional character of sequences is very evident in Example 18-1. The passage as a whole leads from an opening tonic (bars l–3) to a tonicized F-major $\frac{6}{3}$ chord (bar 8). Both the tonic and the motion from tonic to dominant $\frac{6}{3}$ are expanded by sequential passages; there are three of them, labeled A, B, and C in the example. Sequence A expands the field of motion from a I to a cadential ii. This motion—normally a rising 2nd—is expressed as a descending 7th; the 7th is subdivided into three 3rds: B♭–G, G–E♭, and E♭–C (Example 18-1b). The material of the first half-bar repeats on G and E♭ in a descending sequence that leads to a cadential ii-V^7-I.

   Sequence A has helped to bring the tonic chord into a lower register (compare bar 1 and bar 3). As a natural consequence of this descent, the transition to the tonicized F chord will move up so that the goal V is in the same register as the opening I, thus helping to connect the goal to its point of origin. This process is effected in two stages (sequences B and C). Sequence B grows out of the tonic of bar 3, each pattern taking up an entire bar. The bass moves up a step with each bar until the D is reached in bar 5, where the sequence breaks off and the bass returns to the tonic and to a low register. The stepwise ascent begins once more in sequence C but with a shorter pattern so that each step lasts only one beat. The bass moves chromatically until D is regained in bar 7. The sequential motion then continues (with varied bass) until it reaches its goal—the F-major chord in bar 8. Note that the motion to the tonicized V is achieved in a much more gradual way than in the examples of Unit 15.

   Like sequences A and B in Example 18-1, most sequences contain three statements (or two plus the beginning of a third). More than three can be tedious unless the pattern is very short and simple, as in sequence C (bars 6½–7) of the Bach example. Also note how the harmonic motion in bars 1 and 2 is completed only with the beginning of bar 3 and the goal of sequence C occurs only at the downbeat of bar 8. In this way, two phrases *overlap,* the goal chord of one phrase is simultaneously the initial chord of the next.

2. ***Sequences and Transitional Passages; Fortspinnung.*** Passages like the second and third sequences in the Bach Prelude (Example 18-1) are sometimes characterized by the German word *Fortspinnung* (spinning out). The term implies that the passage in question moves continually forward as it repeats or develops one or more motivic ideas derived from an earlier, more stable, musical statement. Although passages of *Fortspinnung* are not always based on chordal sequences, many are. In much Baroque music, extended phrases and even whole sections often fall into a three-part design that we might describe as initial statement, spinning out, and cadential progression. In the Bach example, the initial

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statement comprises bars 1–2 (including the first sequence), the spinning out comprises the second and third sequences, and the cadential progression (in the key of the dominant) follows the excerpt as printed and rounds off the first section of the Prelude.

In Example 18-1, of course, even the initial statement starts off with a sequence. This gives the opening phrase more momentum than we would find in one that remains more closely tied to the tonic triad at first. The phrase, however, quickly arrives at a resolution at the cadence, and the rather elaborate melodic and chordal pattern of the opening sequence is distinctive enough to give the first two bars a thematic character despite the continuous forward motion. As you look at more music, you will discover that pieces in many styles use sequential techniques to form "connective tissue" between more stable thematic and cadential areas. Among the possibilities are episodes between entrances of the subject in fugues, bridge passages in sonata expositions, and the brilliant, virtuoso sections that so often lead to the big cadences in concertos.

3. **Diatonic Progressions.** Sequences vary in many respects—some use only triads; others use seventh chords, applied dominants, and so on. In this unit, we will discuss sequences using $\frac{5}{3}$ and $\frac{6}{3}$ chords only and will confine ourselves to sequential patterns that appear frequently in composition. Some sequences are completely diatonic; others use chromatic elements. Some remain in one key; others effect a change of tonal center. We will discuss chromatic and modulating sequences in later units; here we will work, for the most part, with diatonic ones, like the first sequence in the Bach Prelude (Example 18-1). This passage demonstrates an important principle: When the pattern repeats in a diatonic sequence, the qualities of chords and melodic intervals will change as needed to conform to the key. Thus, the first statement begins with a B♭-major chord, the second with a G-*minor* chord; the first melodic progression of the bass is a half step, but its repetition is a *whole step*.

4. **Classification of Sequences.** Most diatonic chordal sequences fall into one of the following categories:

   1. Sequences with descending 5ths
   2. Sequences with ascending 5ths
   3. Sequences using the ascending 5-6 technique
   4. Sequences using the descending 5-6 technique (falling in 3rds)

   Example 18-2 shows these basic types in four-voice settings. Note that in all four types the repeated unit is a group of two chords (see the brackets). Notice also that we use Roman numerals sparingly. The individual chords of a sequence serve to expand a broader harmonic progression; consequently, we generally indicate with Roman numerals the first and last chords of a sequence, which define its function in the underlying harmonic motion. As we examine the various types of sequences, we will suggest ways of writing and recognizing sequential patterns without relying extensively on Roman numerals.

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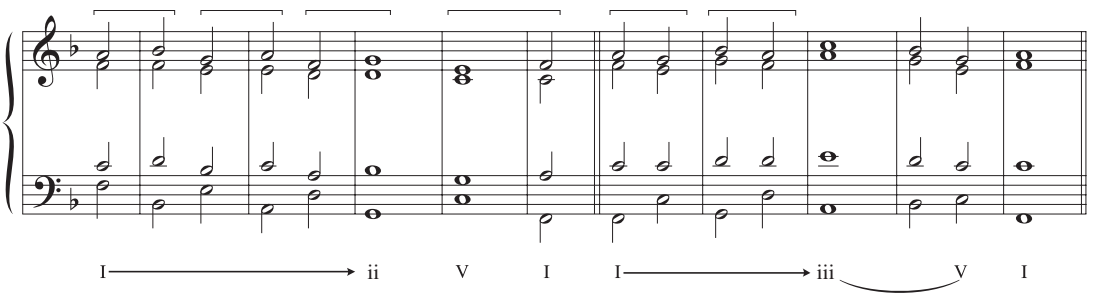
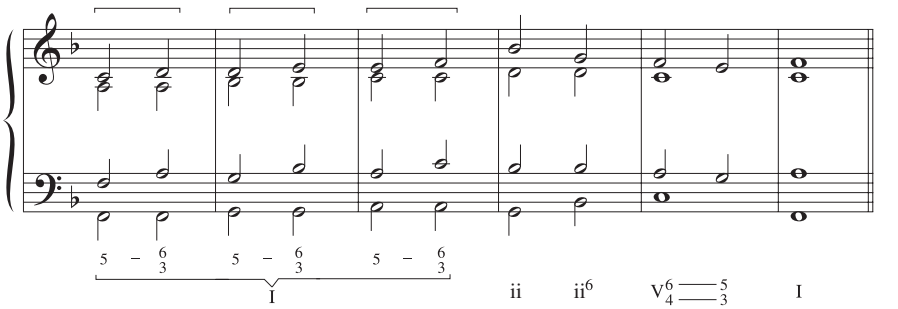
18-2 *basic sequence types*

(a) descending 5ths

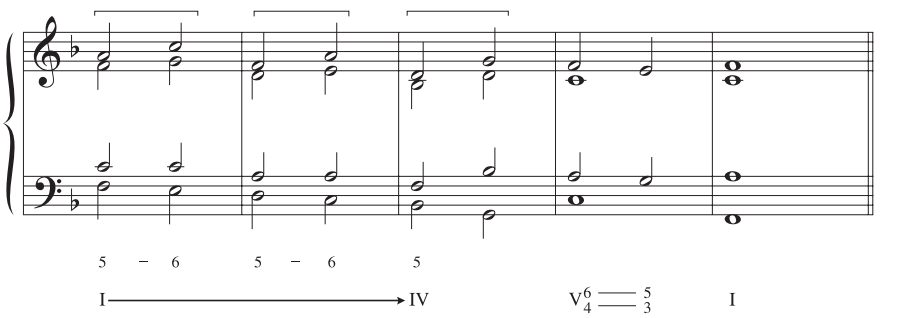
(b) ascending 5ths



(c) ascending 5-6 (rising by step)



(d) descending 5-6 (descending by step)



Each of these basic types of sequence can fulfill various functions in a composition, depending on how the composer uses it. The progressions of Example 18-2 illustrate, in abstract form, three important ways in which a sequence functions:

1. To form a transition between the beginning of a motion and its goal, perhaps the most frequent function. In Examples 18-2b and d, the sequences lead from the opening tonic to iii and IV, respectively.
2. To contain both the transition and the goal, as in the progression of descending 5ths in Example 18-2a, which moves from the initial tonic through

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intervening chords to the cadential ii-V-I (here emphasized by the broadened rhythmic values).

3. To expand a single chord—most often the tonic. In Example 18-2c, the sequence expands the initial tonic (moving from I to I^6) of the progression I-ii-V-I.

Sequences frequently contain a prominent scalewise line in the bass or the soprano—sometimes, in fact, in both. This scalewise component helps the sequence fulfill its basic function—that of forming a connection between two relatively stable points.

As mentioned in the previous section, we will examine sequences with 7th chords and applied dominants in later units. For now, it will help you to learn the basic types of triadic sequences by considering that *each has a model and a variant* and by memorizing the four models—each with a distinct bass motion. (Example 18-2 shows the four types.) The next step is to remember that the *name of the sequence names the model.* In Example 18-2a, for instance, the name of the sequence indicates that the model bass moves in descending 5ths (alternating with ascending 4ths to preserve register); each step of the bass supports a triad in $\frac{5}{3}$ position. The name of the sequence in Example 18-2c, by contrast, is the ascending 5-6. The model bass is a rising stepwise line that supports an alternation of $\frac{5}{3}$ and $\frac{6}{3}$ triads (the numerals 5-6 signify the intervals above the bass and, consequently, chords in root position and first inversion, respectively).

Each model has a corresponding variant, which can be derived from the model through a simple procedure. We will discuss the variants in subsequent sections; just remember for now that the four models use either a succession of $\frac{5}{3}$ triads or an alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords (compare the patterns illustrated in Example 18-2).

5. ***Voice-Leading Implications.*** Normally, as in the Bach Prelude (Example 18-1), *all* the voices above a sequential bass are themselves sequential. And with any repetitive patterns where all the voices participate, 5ths and octaves can become a problem. Therefore, voice-leading chords play an essential role in sequential passages. In sequence A of Example 18-1, the chord on the fourth eighth note prevents 5ths between successive strong beats in the bass and middle voice. And in the third sequence, the $\frac{6}{5}$ chords also break up 5ths.

Keeping the upper voices sequential, as in Example 18-2, will occasionally produce a doubled leading tone (Example 18-2a, third chord). As long as it does not appear before a goal tonic, this doubling is perfectly acceptable. In sequential passages based on descending 5ths or on the ascending 5-6 technique, a diminished triad in $\frac{5}{3}$ position will sometimes appear. When it forms part of a repetitive pattern and when the progression as a whole conveys a sense of forward motion, the diminished triad attracts less attention than in other situations; its harshness is considerably softened. (Note the smooth effect of the third chord in Example 18-2a.) In sequences with descending 5ths, a melodic diminished 5th or augmented 4th will appear in one of the voices. The augmented 4th, which until now we have avoided, is permissible and indeed sometimes unavoidable with this sequence (see the augmented 4th in the bass between B♭ and E in Example 18-2a). However, the melodic augmented 2nd should be avoided in four-part vocal writing.

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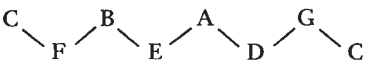
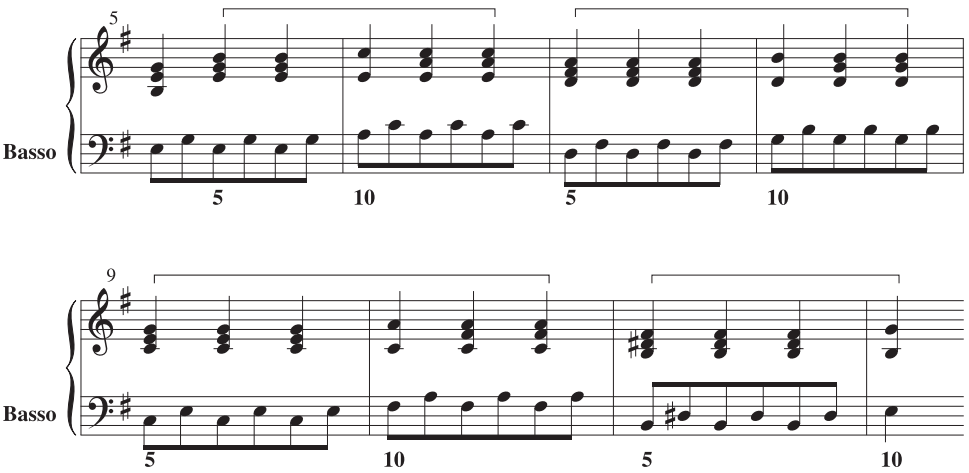
Sequences with Descending 5ths

6. *Harmonic and Contrapuntal Implications.* Example 18-3a illustrates the *model* of the descending 5th sequence. In this type of sequence, based on root movement by 5th, the chords are grouped in twos (see the brackets in Example 18-3a) and each repetition of the two-chord pattern is one step lower than the preceding statement. The bass line reflects this grouping, because it is also arranged in groups of two—down a 5th, up a 4th (or vice versa)—so that it forms two stepwise lines, such as the following:



One of these two lines will usually predominate, with such factors as rhythm and register throwing it into relief. The stepwise relationships that occur in a series of descending 5ths add a strong contrapuntal implication to this typically harmonic progression. In the Vivaldi passage, the predominating line in the bass is E-D-C-B, a 4th-progression connecting I with V in a stepwise descent; the intervening chords of the sequence break up the parallels inherent in such a succession of root-position triads.

18-3 *descending 5ths*

(a) Vivaldi, "Dixit Dominus," RV 594

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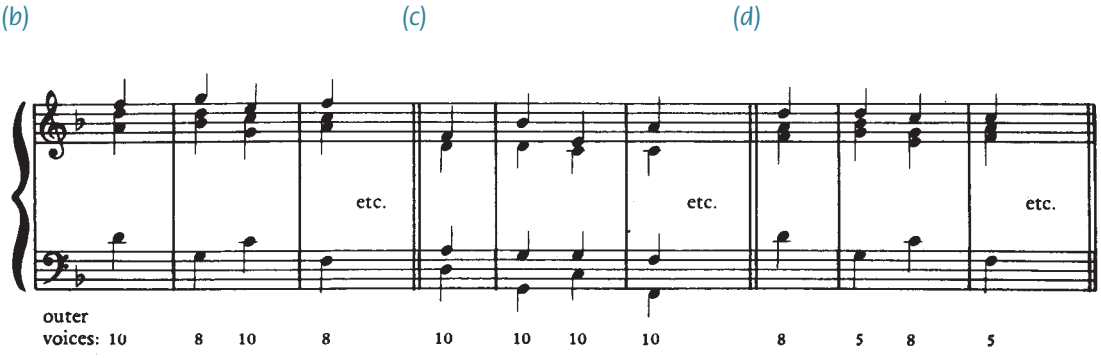

In a sequential series of descending 5ths, as in the nonsequential ones discussed in Unit 17, some chords may receive more emphasis than others do. In particular, the last three chords of a complete series are often important because they form a cadence, such as ii^{6}-V-I or IV-V-I. Thus, the fundamental motion of the Vivaldi excerpt in Example 18-3a is from the opening i to the cadential ii^{o}-V-i. Sequential patterns are also characterized by the intervallic relationships between the outer voices. In the Vivaldi, the bass and soprano alternate 5ths and 10ths (intervallic pattern 5-10, 5-10). The progressions of Examples 18-3b–d show some other possibilities. The combinations that contain imperfect consonances (5-10, 10-8, and 10-10) are usually preferable to the 8-5 pattern, which might sound empty unless decorated.

It is by no means necessary to use the complete series of descending 5ths; shorter segments may also occur, but one must be careful with diminished triads. They ought not to occur at the very beginning or end of such progressions, where they are likely to be too exposed.

7. $\frac{5}{3}$-$\frac{6}{3}$ Pattern. The descending 5th pattern is often modified so that $\frac{6}{3}$ and $\frac{5}{3}$ chords alternate, forming the *variant* of the model described in Section 6. This procedure tends to enhance one of the stepwise bass lines. In Example 18-4, the $\frac{5}{3}$ chords support the bass descent C-B♭-A♭; the $\frac{6}{3}$ chords are clearly subordinate until the cadential ii^{o6} arrives in bar 88. Notice how the register change in the top voice helps to emphasize the importance of this chord; a common function of a sequence is to connect the tonic with the intermediate harmony of a passage (review the functions in Section 4). A useful way of remembering the descending 5th variant is that the bass pattern moves down a third, up a step, and so forth to the goal of the sequence.

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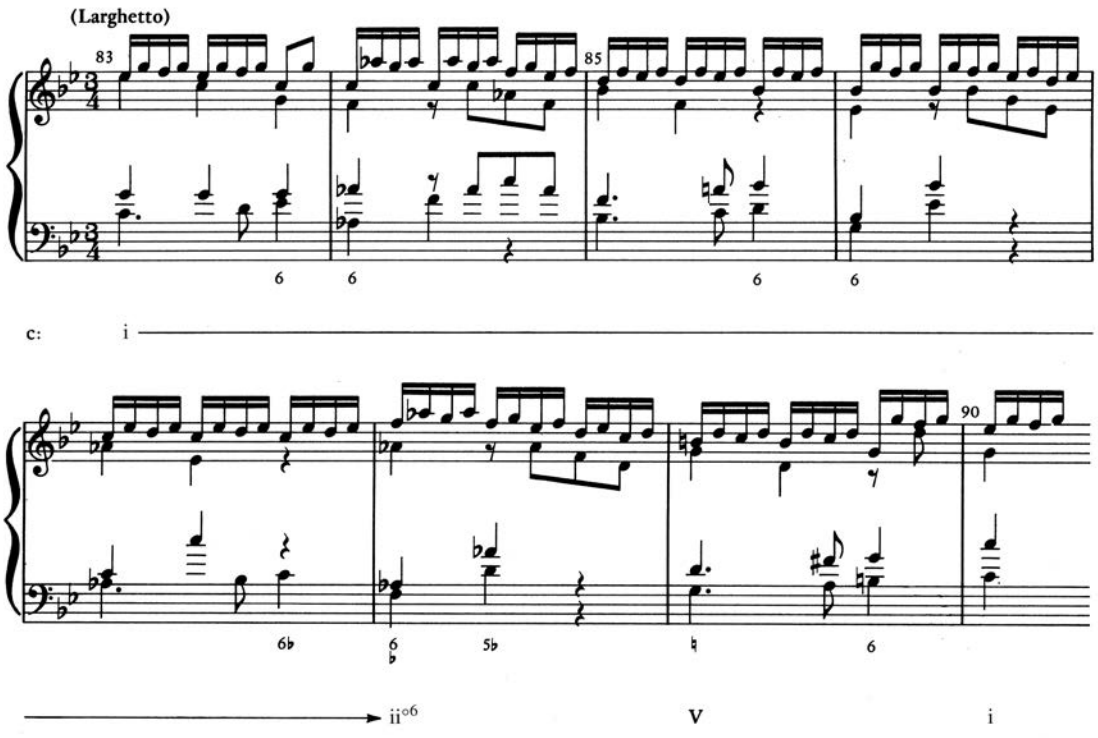
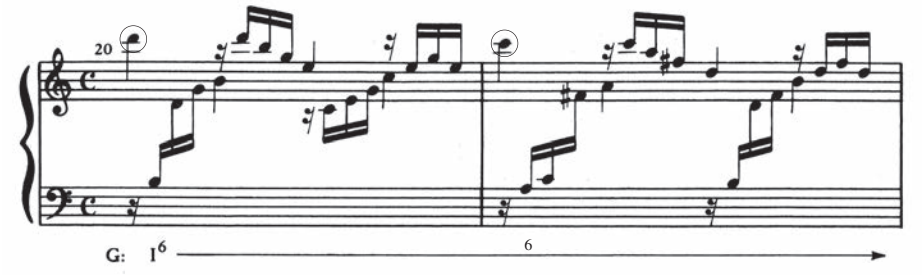
18-4 *Handel, Musette* *(from Concerto Grosso, Op. 6/6)*



In Example 18-5, on the other hand, the series of descending 5ths *begins* with a $\frac{6}{3}$ chord, the $\frac{5}{3}$'s coming in on the second half of the measure. This sequence leads from I^6 through V^6 to I with the $\frac{6}{3}$ chords predominating. As in the Handel Musette (Example 18-4), the last chord of the sequence is a goal, but the two sequences function quite differently. The sequence of Example 18-4 connects the opening i to a cadential ii^{o6}, while the one in Example 18-5 moves between different positions of the same chord, I^6 to I. Notice the top voice of the Mozart passage, particularly the notes on the downbeats of bars 20–23. The circled notes D-C-B-A-G—appearing in the same register—form a 5th-progression; this line delineates a G-major triad, a linear expression of the underlying tonic of the passage.

18-5 *Mozart, Piano Sonata, K. 545, I*



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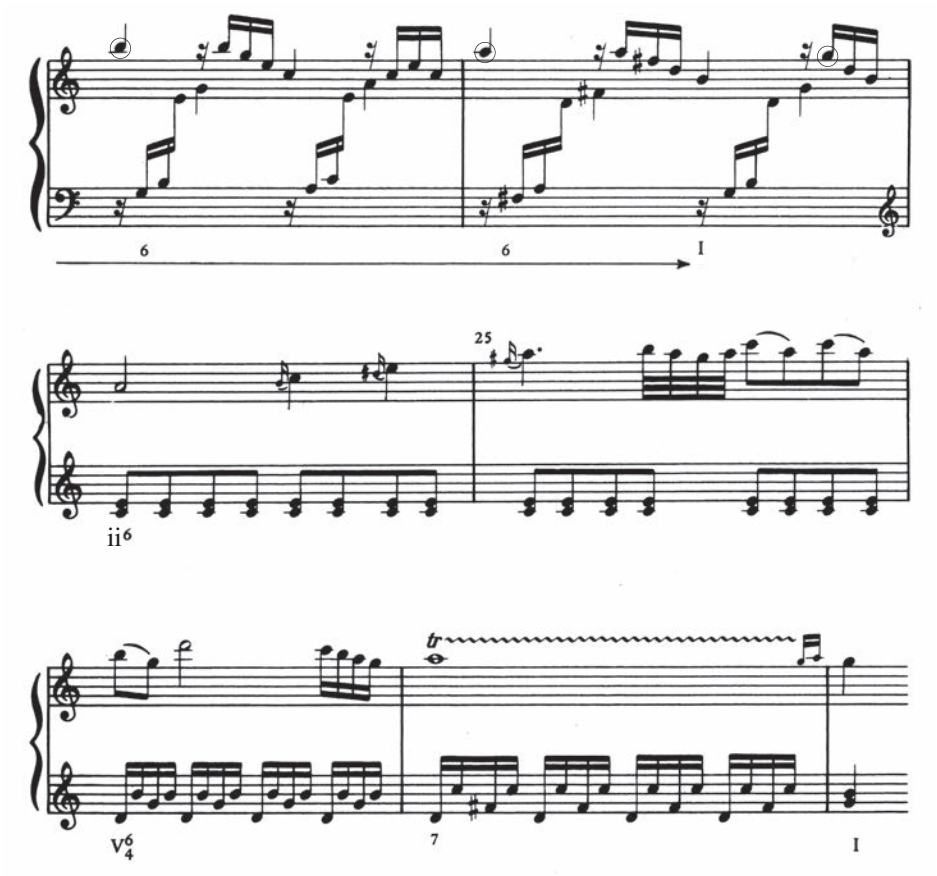
Sequences with Ascending 5ths

8. Harmonic and Contrapuntal Implications. An excerpt from Bach (Example 18-6) illustrates the *model* of the second basic type of sequence—the one that contains ascending 5ths. In Unit 17, we saw that a succession of $\frac{5}{3}$ chords in rising 5ths normally grows out of an ascending stepwise line; review Example 17-2, where a stepwise motion III-iv-V in minor is expanded harmonically into a series of rising 5ths: III-(VII)-iv-(i)-V. Our present example is similar, only the progression leads from I to iii in major, and it is expressed as a sequence. As shown in Example 18-6c, the second and fourth root-position triads prevent parallel 5ths and octaves (between the triads on the downbeats), and they support lower incomplete neighbors in the uppermost voice. Although the sequential progression breaks off after iii, the iii is not a final goal, for the ascending motion continues through another sequence to IV and on to V (see Example 27-6 for the continuation).

In sequences with ascending 5ths, each pair of chords often supports a soprano line that descends by step. In Example 18-6, the main top-voice notes are E-D (bar 1), F-E (bar 2), and G (bar 3)—see Example 18-6c—though the

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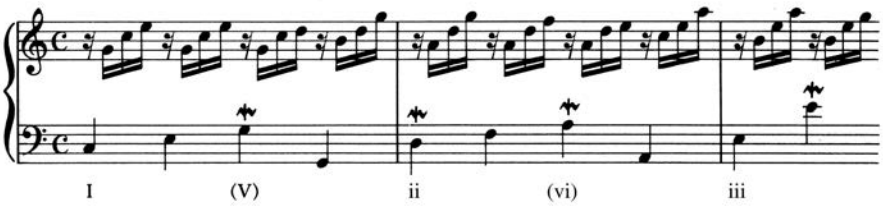
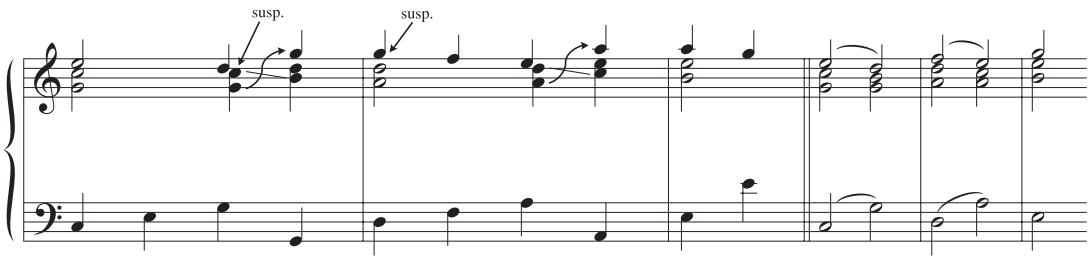
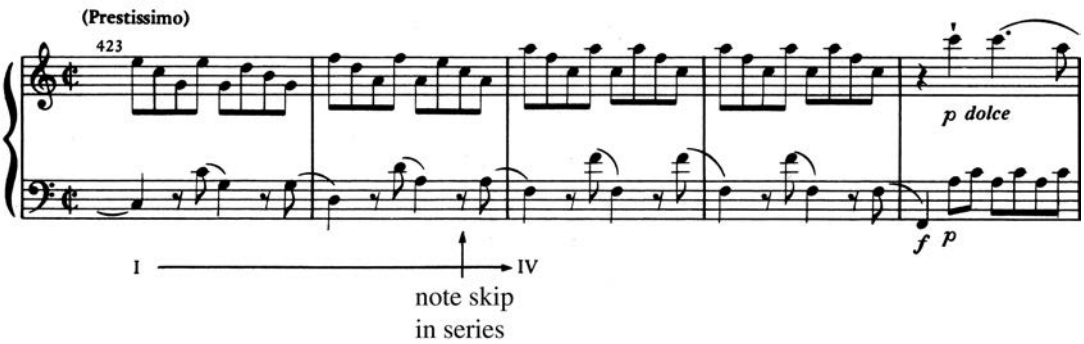
many suspensions, alternating between soprano and alto, partly obscure these two-note figures. Suspensions frequently decorate sequences of this type. In the second half of measure 1, the inner-voice g^1 moves up an octave into the soprano to prepare the suspension. The a^1 of measure 2 does the same thing (see the curved arrows in Example 18-6b).

18-6 *Bach, Little Prelude, BWV 924*

(a)

(b) reduction

(c) reduction

9. *Omitting a Step in the Ascent.* Like the Bach *Little Prelude,* an excerpt from Beethoven's "Waldstein" Sonata (Example 18-7) contains a rising sequence with ascending 5ths. In the Beethoven example, however, the ascent skips over one step: the pair of chords E minor to B diminished. Omitting a step in the ascent is very frequent, usually, as here, to avoid the diminished triad; for an illustration in minor, see Example 18-23.

18-7 *Beethoven, "Waldstein" Sonata, Op. 53, III*



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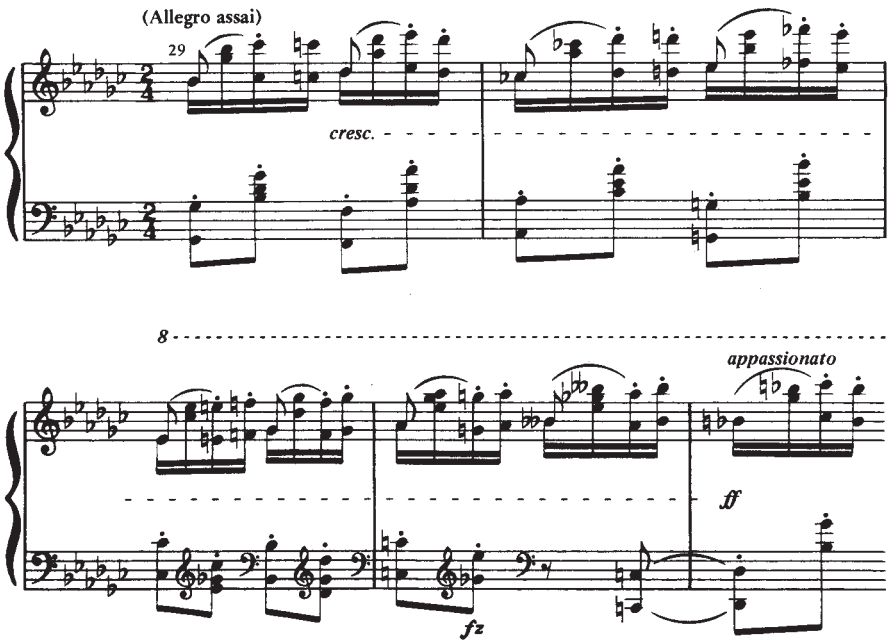
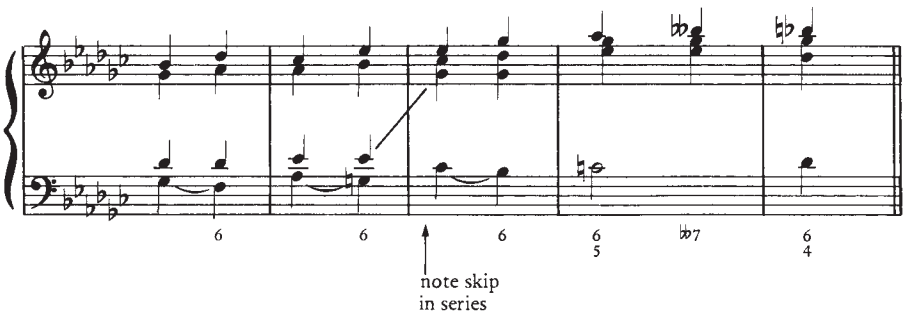
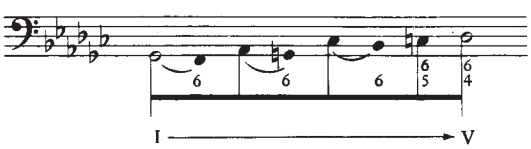
10. $\frac{5}{3}$-$\frac{6}{3}$ Pattern. As with the descending 5ths sequence, the variant of the ascending 5th alternates $\frac{5}{3}$ and $\frac{6}{3}$ chords; the resulting bass pattern is down a step, up a third, and so forth (Example 18-8b). As in the "Waldstein" excerpt, a step in the ascent is left out. (The chords on G♮ and C♮ are applied dominants. If the reduction [Example 18-8b] is played *without* these accidentals, it will still make sense.)

18-8 *Chopin, Etude, Op. 25/9*

(a)

(b) reduction



(c) bass line

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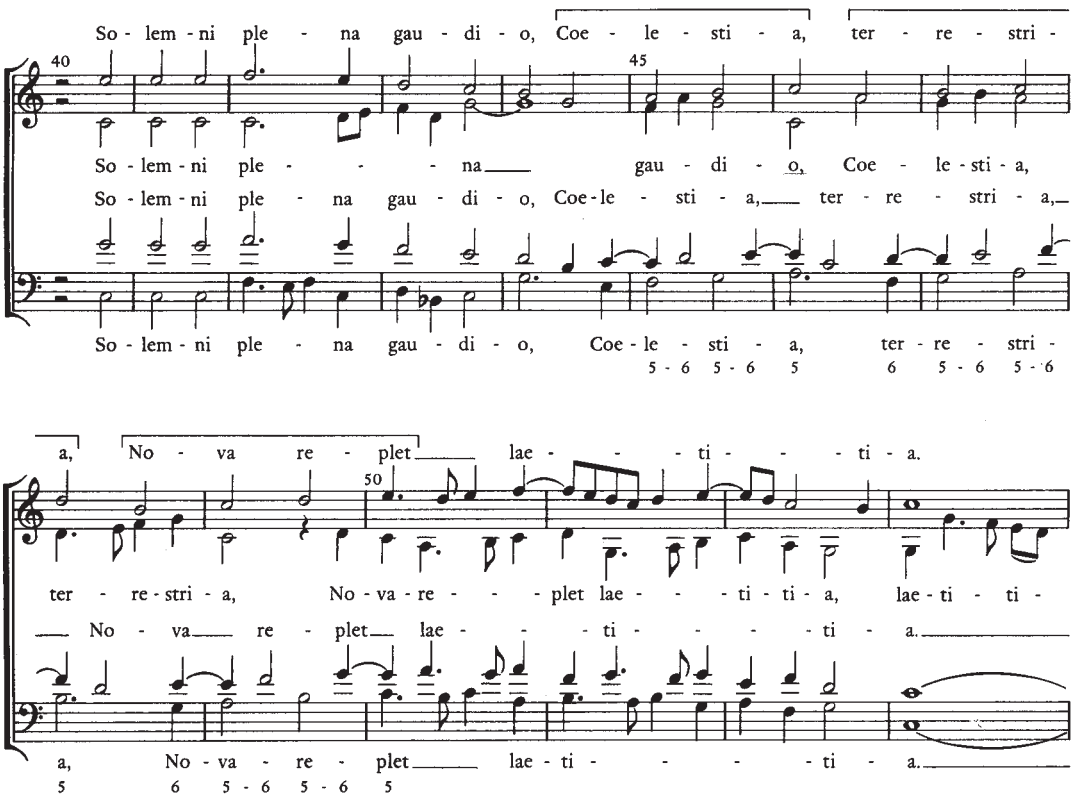
Sequences Using the Ascending 5-6 Technique

The use of 5-6 in a series is an old contrapuntal technique and one that occurs very frequently in composition. Often it prevents parallel 5ths, as we can see in Example 18-9, which presents a particularly beautiful use of 5-6 technique in a fragment from an "Ave Maria" by the great Renaissance composer Josquin des Prez. Here, the outer voices move by step in parallel 10ths, forming a sequence in rising 2nds. The tenor forms a 5-6 series with the bass, avoiding a series of parallel 5ths.

18-9 *Josquin, Ave Maria*

So - lem - ni ple - na gau - di - o, Coe - le - sti - a, ter - re - stri -
40
45
So - lem - ni ple - - - na gau - di - o, Coe - le - sti - a,
So - lem - ni ple - na gau - di - o, Coe - le - sti - a, ter - re - stri - a,
So - lem - ni ple - na gau - di - o, Coe - le - sti - a, ter - re - stri -
5 - 6 5 - 6 5 6 5 - 6 5 - 6
a, No - va re - plet lae - - - ti - - - ti - a.
50
ter - re - stri - a, No - va - re - - - plet lae - - - ti - ti - a, lae - ti - ti -
No - va re - plet lae - - - ti - - - - ti - a.
a, No - va - re - plet lae - ti - - - - ti - a.
5 6 5 - 6 5 - 6 5

translation: [Hail to thee, whose conception] full of solemn rejoicing, would fill heaven and earth with new joy.

11. *Syncopes.* Example 18-10 shows the familiar procedure whereby a $\frac{6}{3}$ chord arises out of contrapuntal motion (5-6) over a single bass tone.

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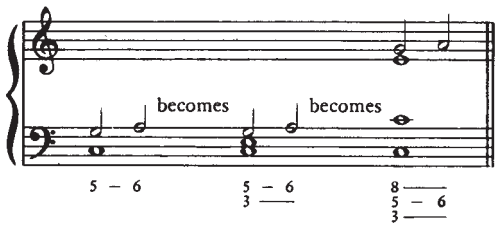
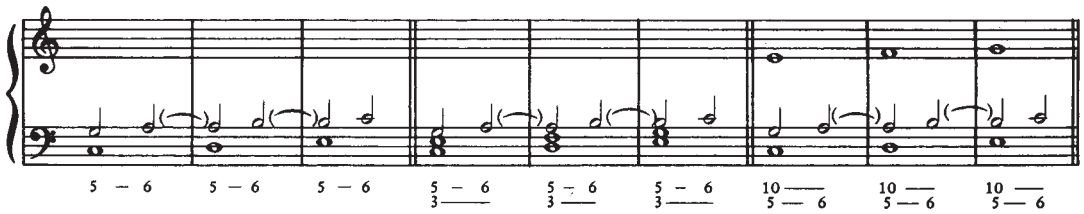
18-10 *5-6 motion*



This technique is illustrated in fourth-species counterpoint and can be extended over a stepwise ascending bass, producing a series of 5-6 progressions. In such a series, the 6ths normally appear on weaker beats than the 5ths. The tying over, or repeating, of the 6th emphasizes the weak beats so that the voice in which it appears sounds syncopated; for this reason, 5-6 progressions are often said to form syncopes. Example 18-11 demonstrates the 5-6 series in two and three voices. In three voices, 3rds or 10ths are added above the bass; the 5-6 could be either in the soprano (Example 18-11b) or, if there are 10ths with the bass, in the middle voice (Example 18-11c).

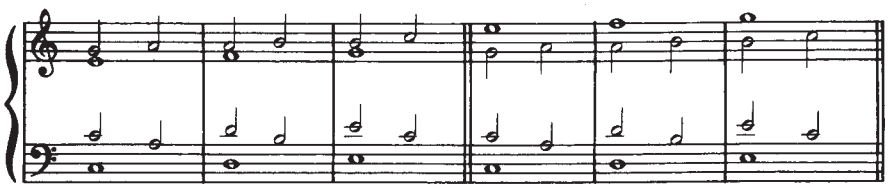
18-11 *5-6 in series*

(a) *(b)* *(c)*



The 5-6 series occurs most naturally in a texture of three voices, but with careful attention to doubling, four voices are also possible (Example 18-12). Notice that the ascending 5-6 model alternates $\frac{5}{3}$ and $\frac{6}{3}$ chords over a rising scalar bass (Example 18-12). This observation should help you to recognize and write this important sequential progression.

18-12 *5-6 series in four voices*

(a) *(b)*

In the Josquin, the 5-6's occur within a larger sequential pattern. Often, however, as in Example 18-13, the 5-6 series itself helps form a sequence in rising

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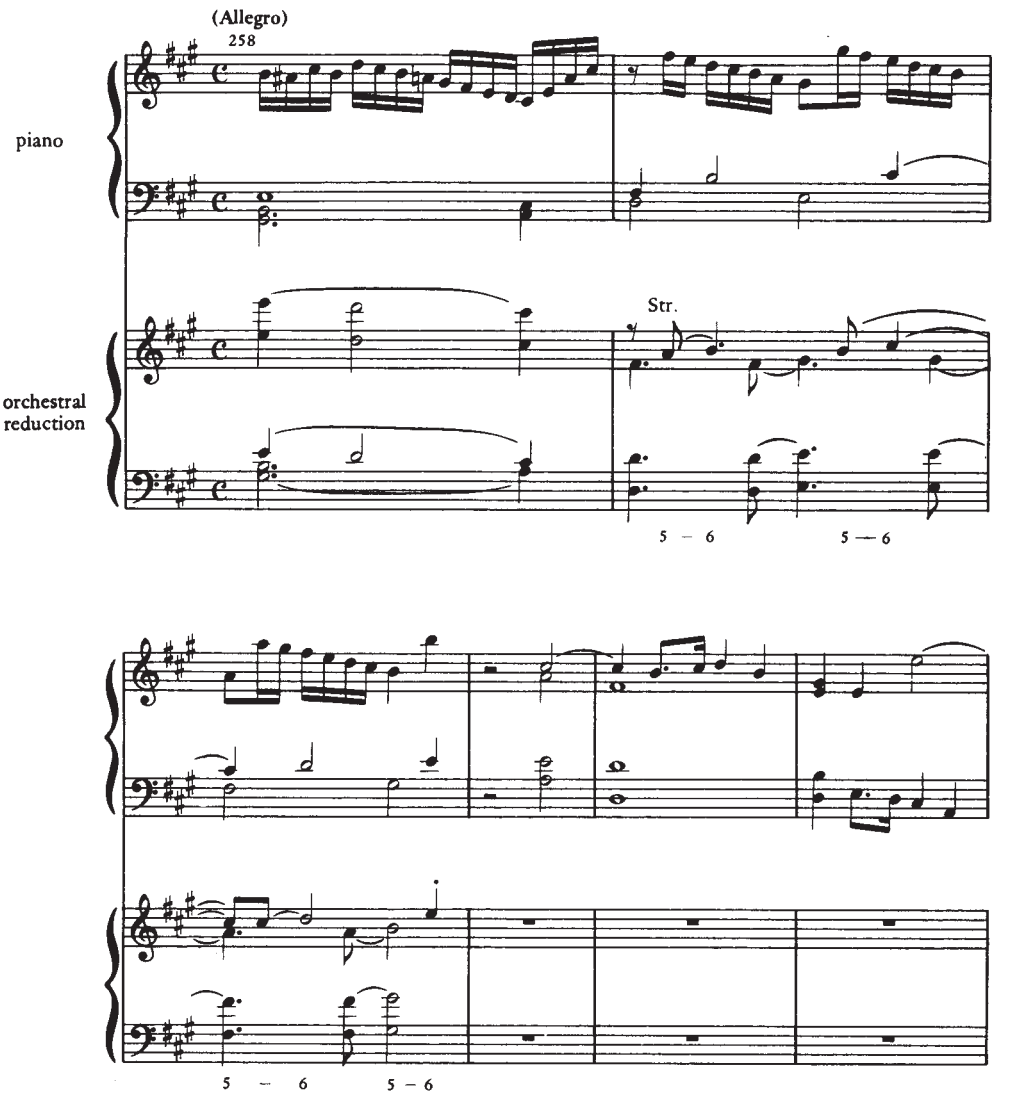
2nds; in this example, the top voice decorates the sequential pattern. The 5-6 technique lends itself easily to all kinds of sequential elaborations, ranging from the simple to the very complex. Variants using seventh chords and applied dominants (as in the third sequence of Example 18-1) occur frequently; we will take them up in later units.

5-6 series in major often contain a diminished triad in root position ($vii^{o}\frac{5}{3}$), as in bar 260 of Example 18-13. This diminished chord does not create a disturbing effect if the tonic follows soon after, as it does in the A-major chord of bar 261. The importance of this chord as the goal of the passage is underscored—not contradicted—by the rest that precedes it. Despite that rest, therefore, there is an overlap of phrases: the goal tonic of the sequence is also the beginning tonic of the following phrase.

18-13 *Mozart, Piano Concerto, K. 488, I*



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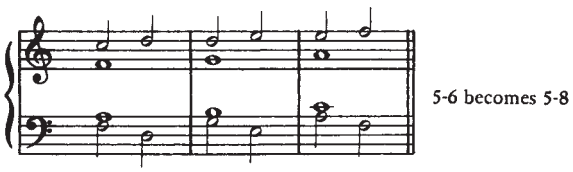
12. Root-Position Variant of Ascending 5-6. Example 18-14 shows an important variant of the 5-6 technique; the bass leaps down in 3rds and transforms the $\frac{6}{3}$ chords into $\frac{5}{3}$'s. Bars 3–5 of Example 18-1 also illustrate this procedure. In a simple four-voice texture, the sound of this variant can be less attractive than the original 5-6, but in freer textures the connecting root-position triads will sometimes provide a better support for extended figuration as in bars 3–5 of Example 18-1.

18-14 *variant of 5-6*

Notice that the model of an ascending 5-6 sequence alternates $\frac{5}{3}$-$\frac{6}{3}$ chords while the variant uses all root-position triads (a procedure *opposite* to that of sequences moving by 5ths). The same logic holds for the descending 5-6 sequence, which we examine in the next section.

Sequences Using the Descending 5-6 Technique (Falling in 3rds)

13. Harmonic and Contrapuntal Implications. The model of the fourth important type of sequence (18-2d) also alternates $\frac{5}{3}$ and $\frac{6}{3}$ chords. Unlike the ascending 5-6 sequence, however, the chords do not share a common bass tone but instead alternate above a bass descending by step; each new interval pair (5-6) occurs a 3rd below the one before it, so the sequence is organized in descending 3rds. Example 18-15 illustrates this very important sequential pattern. In this Mozart example, the descending bass line is expressed by the first and third eighth notes of the left-hand piano part; the second and fourth eighths represent an inner voice. The descending bass, supporting $\frac{5}{3}$ and $\frac{6}{3}$ chords in alternation, leads from I to the goal chord, ii^6. The melody is in the right-hand part of the piano; it clearly shows the sequential repetition at the lower 3rd. The violin part—actually an "alto" voice—has a simpler line, a stepwise descent in parallel 10ths above the bass (a series of parallel 10ths between the bass and an upper voice is very common in both ascending and descending 5-6 sequences).

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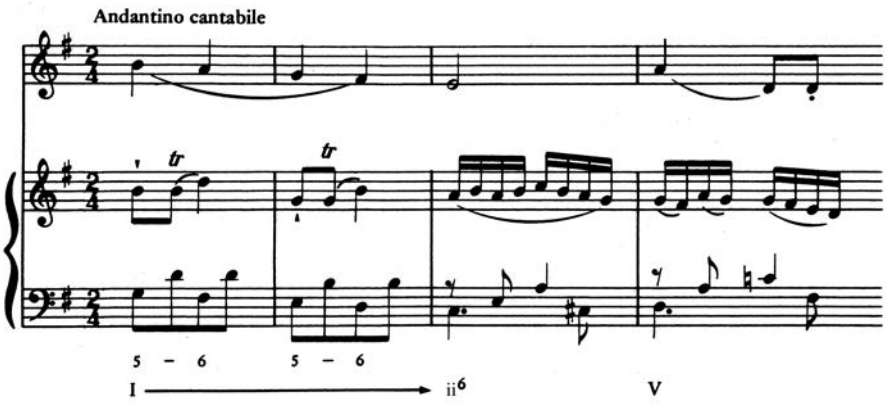
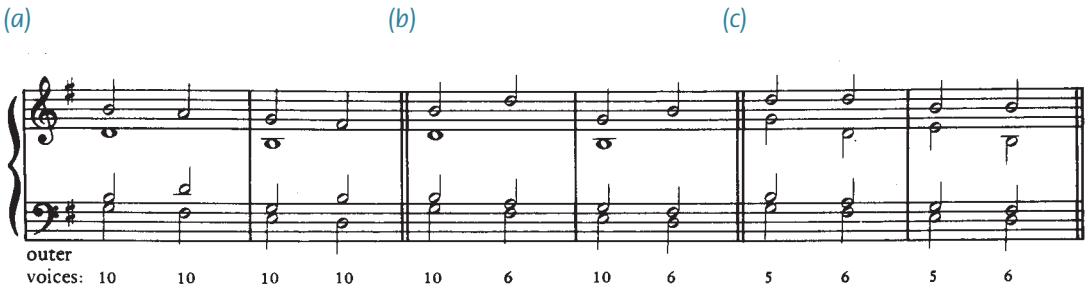
18-15 *Mozart, Violin Sonata, K. 379, II*

Example 18-16 shows three top-voice possibilities for this progression. The first two resemble the right-hand piano part and the violin part of the Mozart excerpt.

18-16 *descending 5-6 progression*

An excerpt from Handel (Example 18-17) also uses a descending 5-6 sequence; the violin parts elaborate a motion in parallel 10ths above the bass. The function of this sequence is quite different from that in Example 18-15. By carrying the bass line one step further, Handel makes a connection between the opening tonic and its first inversion (i-i^6); the bass then continues by step, but in quicker time values, to complete the octave descent. In Example 18-17, therefore, the sequence expands the initial tonic, whereas Mozart's sequence (Example 18-15) forms a bridge from I to the cadential ii^6. (Note the minor v^6 in the first bar of the Handel, resulting from the normal use of the descending melodic form of minor.)

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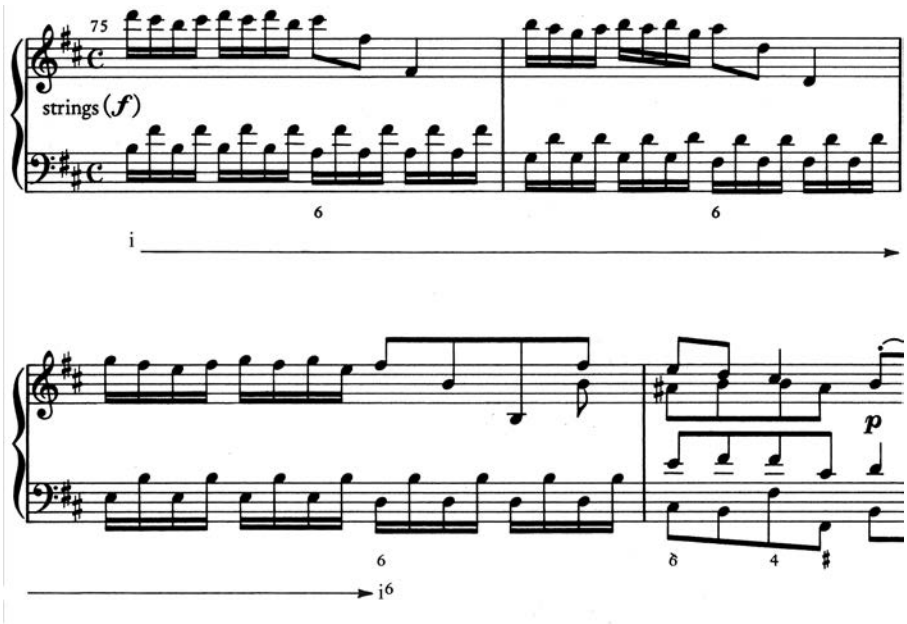
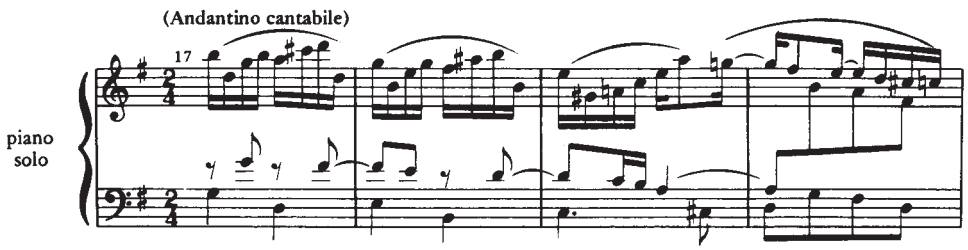
18-17 *Handel, Allegro* *(from Concerto Grosso, Op. 6/12)*

As the Handel excerpt shows, the descending 5-6 technique makes possible the effective harmonization of a descending scale in the bass. The sequence will necessarily break off after the bass arrives on $\hat{3}$, $\hat{2}$-$\hat{1}$ supporting V^4_3 (or vii^{o6}) moving on to the tonic.

14. Root-Position Variant of Descending 5-6. Example 18-18 is the opening of the first variation (for piano alone) of the same Mozart Sonata movement as in Example 18-15; it shows the variant of the descending 5-6 sequence, in which all of the chords appear as root-position triads. The disjunct bass (down a 4th, up a step, and so forth) emphasizes the organization in descending 3rds of this type of sequence.

18-18 *Mozart, Violin Sonata, K. 379, II*

A more elaborate form of the same sequential progression occurs in bars 1–2 of our Bach Prelude (Example 18-1) where the first $\frac{5}{3}$ chord in each group is embellished by its lower neighbor. Compare the reductions in Example 18-1b with the original example.

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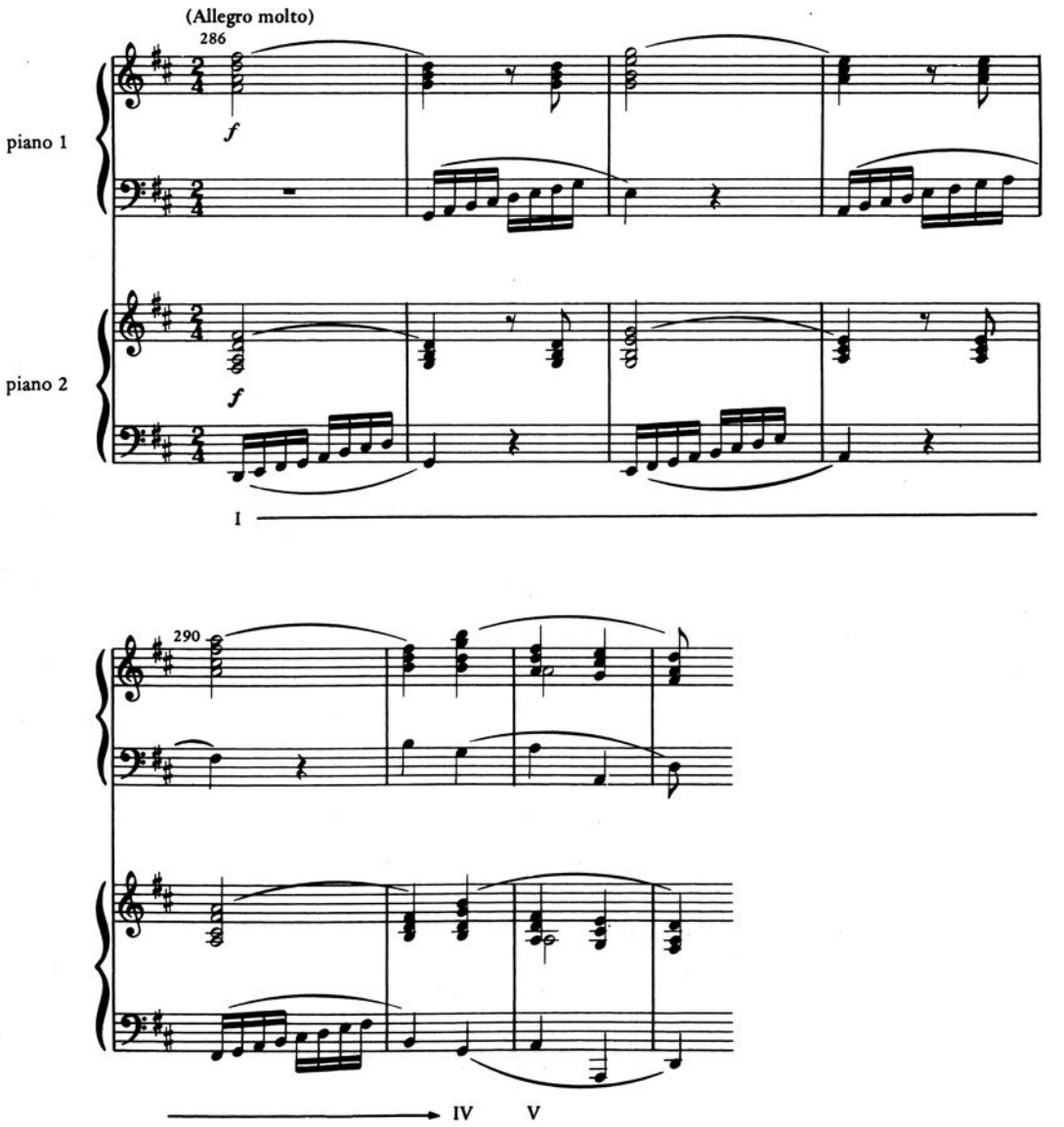
Less Frequent Sequential Patterns

15. *Ascending by Step with Voice-Leading $\frac{5}{3}$ Chords.* Example 18-19 shows another way to produce a sequence rising by step; in this respect, it resembles the rising sequence with ascending 5ths and the 5-6 syncope technique. Here, the bass moves alternately up a 4th and down a 3rd, all with root-position triads. The first chords of each pair are the principal ones; the second ones function as voice-leading correctives, breaking up parallel 5ths and octaves. In this excerpt, the sequence forms a stepwise transition from I to V. Note that the change of rhythm and the breaking off of the sequential pattern do not occur at the same time.

18-19 *Mozart, Two-Piano Sonata, K. 448, III*

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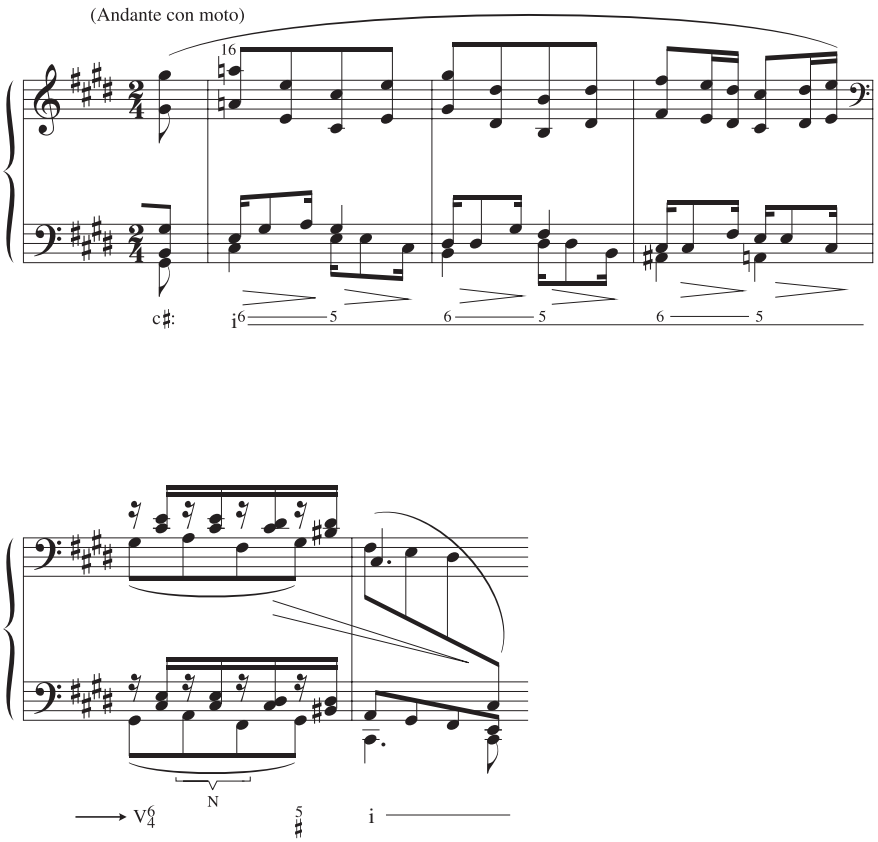
16. *Descending Sequence with 6-5 Syncopes.* The interval succession 6-5 over a single bass tone can occur in series, thus producing a descending sequence. This procedure is the reverse of the ascending 5-6 series discussed earlier. In Example 18-20, the bass moves from i down to a cadential $\frac{6}{4}$. The bass remains sequential for three complete steps except for the chromatic A♯-A♮ in the bass. The right-hand part, at first sequential, is altered in bar 18 to allow for the chromatic bass; a leap to A would produce an ugly effect. Two neighboring chords separate the cadential $\frac{6}{4}$ from its resolution, a possibility that we shall explore in Unit 20.

18-20 *Brahms, Intermezzo, Op. 117/3*

Sequences Moving to Tonicized V

17. *Descending 5-6 Leading to Tonicized V.* Example 18-21a shows the consequent phrase of the Mozart theme shown in Example 18-15. Here, the descending 5-6 series prepares a motion to tonicized V, moving from I through vi as before and then skipping in the bass to a C♯, the leading tone of V.* The two phrases of the Mozart demonstrate how sequences modulating to V often find an appropriate

*This chord on the C♯, vii^{ø7} of V, is similar in function to V$^6_5$ of V; it will be discussed in Unit 26.

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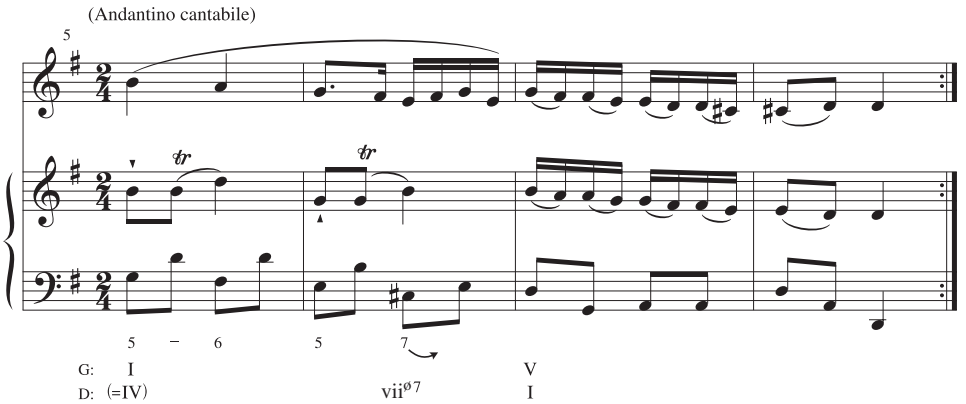
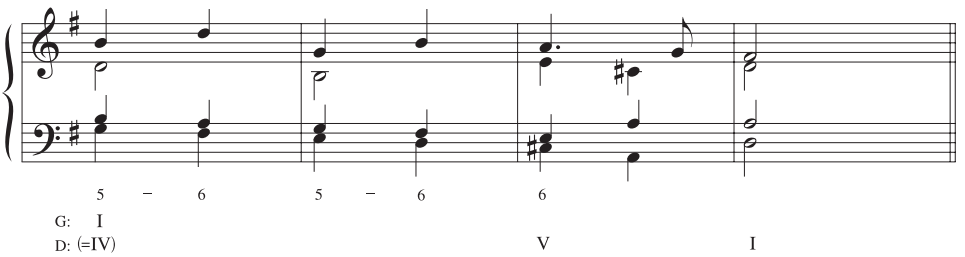
place following a similar passage that remains in the tonic. The descending 5-6 series is a useful one in moving to V because all the chords that follow the original tonic can also belong to the new key. Another possibility similar to the Mozart would be to continue sequentially through another passing $\frac{6}{3}$ to V^6 (or V^6_5) of V as in Example 18-21b.

18-21

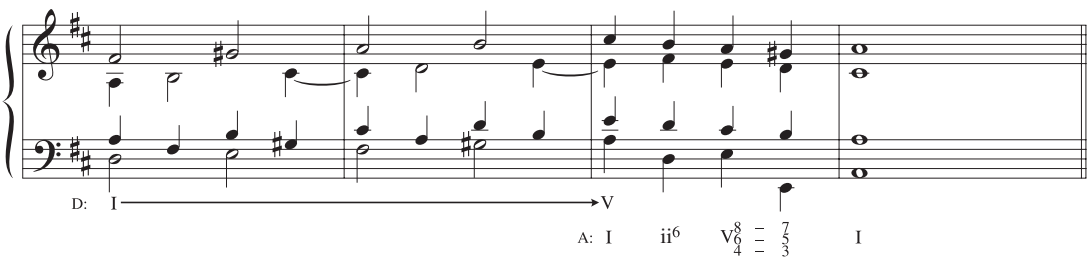
(a) Mozart, Violin Sonata, K. 379, II

(b)



18. *Ascending 5-6 Leading to Tonicized V.* You will recall that both the second and the third sequences of Example 18-1 lead toward a tonicized V and that both are variants of the ascending 5-6 series. With this series $\sharp\hat{4}$ will appear early—already on the second step of the sequence—to prepare the new key. Example 18-22 shows some additional possibilities (remember that the first progression is the model and the second is the variant).

18-22 *ascending 5-6*

(a)



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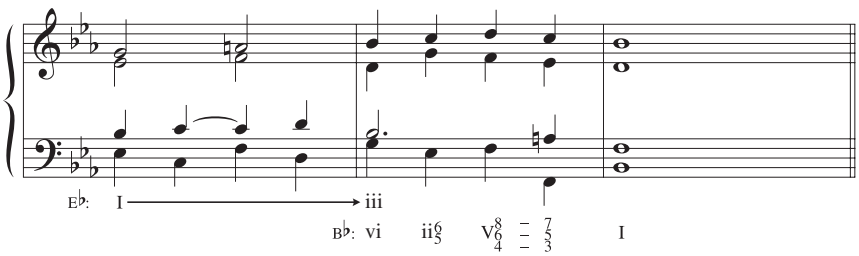
(b)



Sequences in Minor

19. *Descending Motion.* If you use your ear, you will soon discover that not all diatonic sequences that work well in major can be used successfully in minor. Two factors limit the possibilities for sequential treatment in minor: the diminished triad on the supertonic and possible difficulties in approaching the leading tone. Descending 5ths, the descending 5-6 succession, and their variants are the easiest to use. In the complete series of descending 5ths, from i to i, $\hat{7}$ need not be raised until the cadential V is reached (Example 18-3a). In a sequence by descending 5ths, the diminished triad ii^{o} is good; it forms part of the cadential ii^{o}-V-i and its approach from VI sounds natural. In the descending 5-6 progression, the natural form of minor will be used for the bass (Example 18-17). This progression also presents few problems in moving down from i. The approach to ii^{o}, however, is less convincing than with descending 5ths; usually vii^{o6} or ii^{ø7} is used instead (thus modifying or breaking off the sequence; again see Example 18-17).

20. *Moving Up from i.* In minor, moving up from i is much more difficult than moving down because of the diminished triad ii^{o}. In a rising sequence with ascending 5ths, the pair of chords ii^{o}-VI can be left out to avoid this triad, a technique discussed in Section 9. Example 18-23 illustrates. The bass ascends from i to iv (skipping ii^{o}), the soprano moving in 10ths above the bass. In bars 3–4, a voice exchange between soprano and bass transforms iv to iv^{6}; the iv^{6} leads to V in a Phrygian cadence. The major V in the second half of bar 1 is typical; raised $\hat{7}$ intensifies the connection with the tonic.

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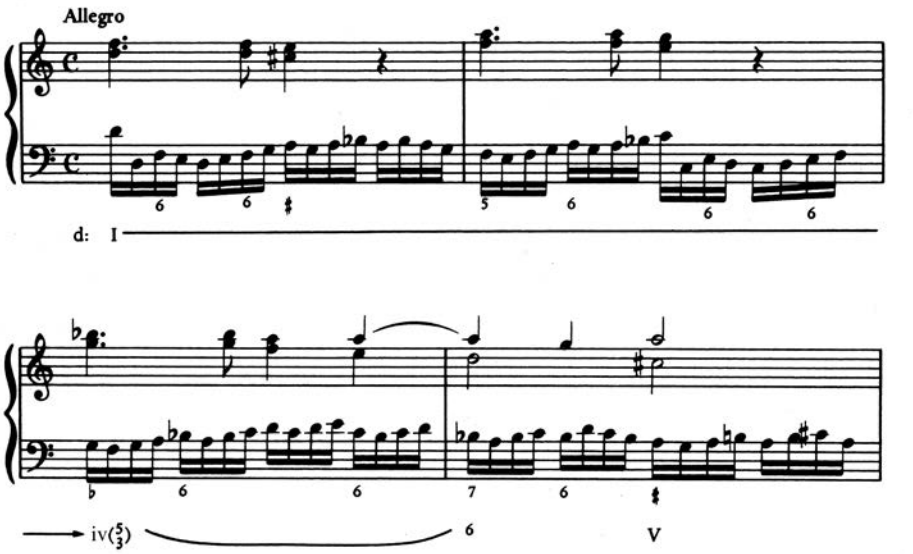
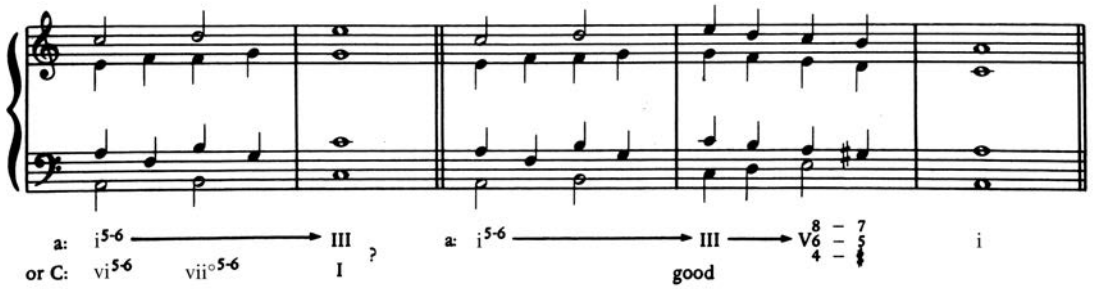
18-23 *Corelli, Allemanda* *(from Trio Sonata, Op. 4/8)*

The ascending 5-6 series can move up from i without skipping ii° (Example 18-24a). The diminished triad is approached by step and is less harsh than when preceded by a leap. Moreover, it "resolves" into the next $\frac{5}{3}$ chord, III (compare Section 11). The tonal meaning of this progression, however, can be ambiguous; the III will tend to sound like the tonic (of the "relative major") unless followed by a progression leading to i as in Example 18-24b.

18-24 *ascending 5-6 series in minor*

(a) *(b)*



This series can be convincingly extended to the next step iv-ii°6 and on to $V^{(7)}$ or V^4_2. Be sure to avoid the augmented 2nd in moving on to V. Example 18-25 shows several voice-leading possibilities.

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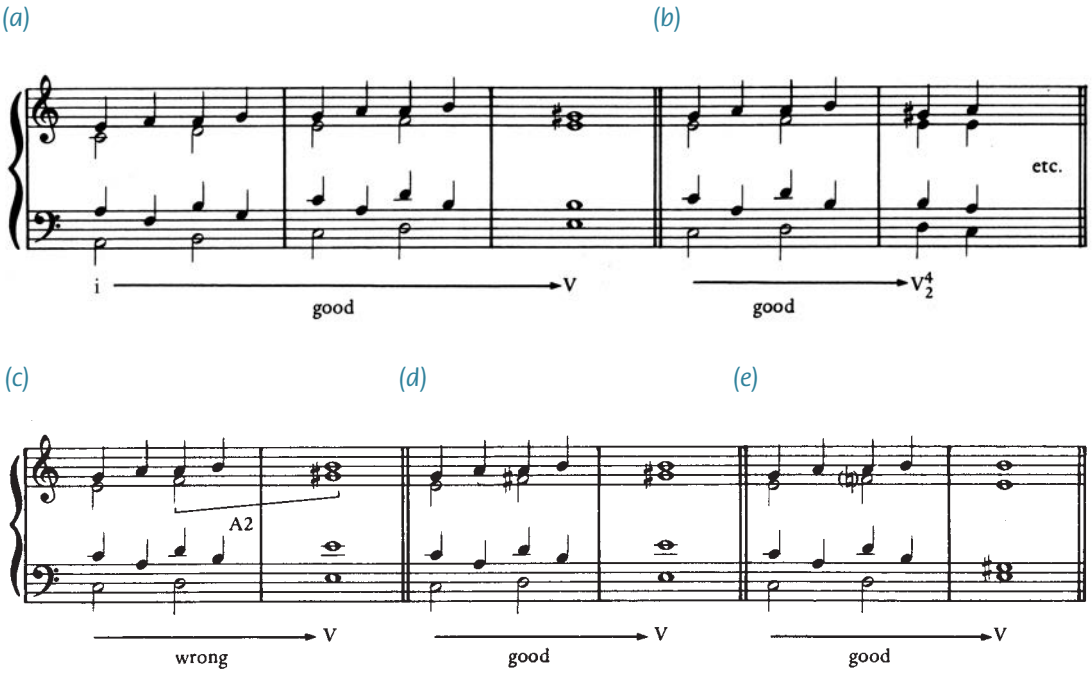
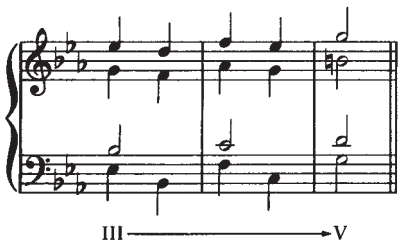
18-25 *extending the 5-6 series*

21. *Moving Up from III.* III is the most frequent point of origin for rising sequences in minor and the easiest to use, as difficulties with the diminished triad or with the approach to the leading tone are unlikely. Because of the tendency of the minor mode to gravitate to III, this chord makes a logical beginning for a sequence. Ascending 5ths can easily move to a goal V (Example 18-26a). Going further, however, is impossible because the next chord would be the weak, unconvincing diminished triad ii^{o}. However, the 5-6 series can extend to VI (Example 18-26b) or even to natural VII (18-26c). The chords will be exactly the same as those contained between i and iv or V of the "relative major"; consequently, a key-defining progression (leading to i or tonicizing III) must follow the VI or VII.

18-26 *sequences rising from III*

(a)

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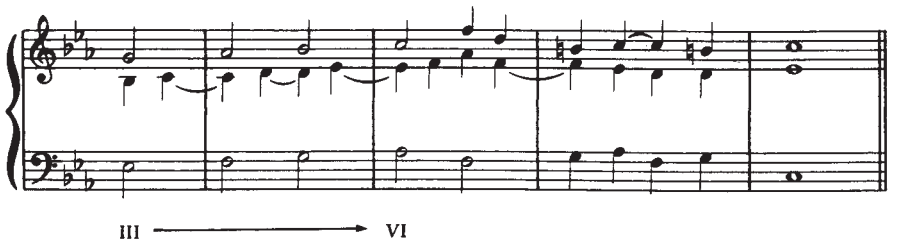
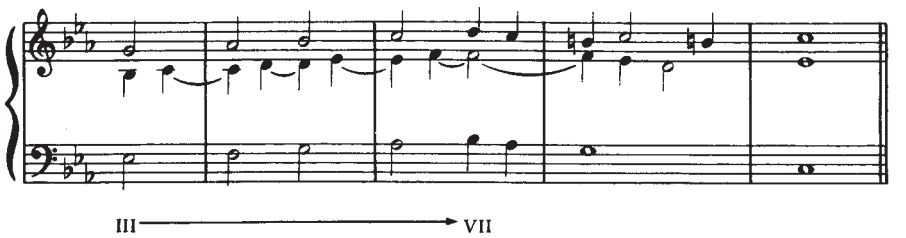
(b)



(c)

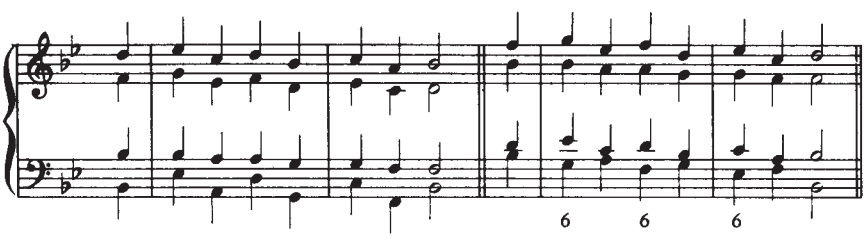


22. *Moving Up from V.* The remainder of the minor scale—from V or VI to i—is almost unusable in a diatonic setting. $\hat{7}$ must be raised to move to the goal tonic, but raising $\hat{6}$ to avoid the augmented 2nd produces two diminished $\frac{5}{3}$ chords in close succession, a less than euphonious combination. Therefore, for the time being, avoid ascending sequences between V and i in minor.

POINTS FOR REVIEW

1. The following are simple four-part progressions showing the most important types of sequences in major, with the models followed by their typical variants. Remember: *The name of the sequence names the model.*

descending 5ths

(a) model *(b) $\frac{6}{3}$ variant*

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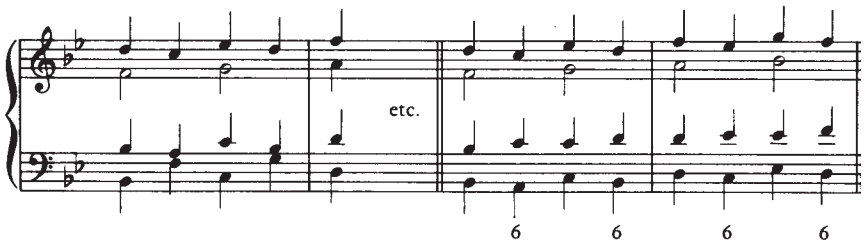
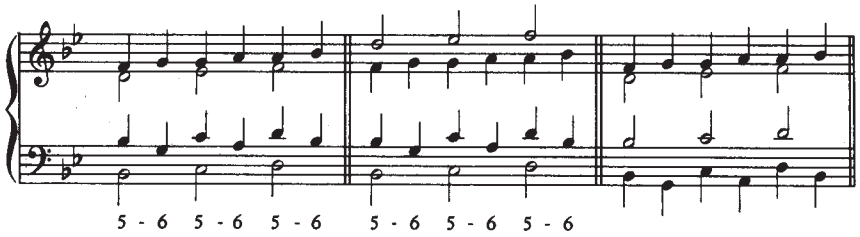
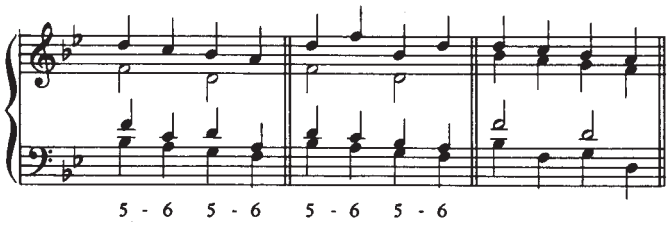
ascending 5ths

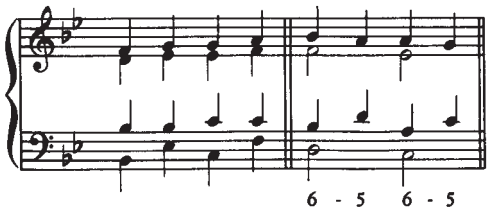
(a) model *(b) $\frac{6}{3}$ variant*



ascending 5-6

(a) 5-6 in soprano (model) *(b) 10-10 in soprano (model)* *(c) $\frac{5}{3}$ variant*

descending 5-6

(a) 10-10 in soprano *(b) 10-6 in soprano (model)* *(c) $\frac{5}{3}$ variant*

other sequences

(a) up by step with voice-leading chords *(b) descending 6-5*

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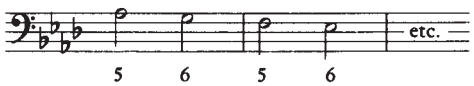
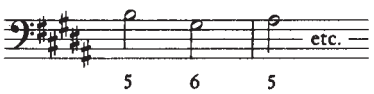
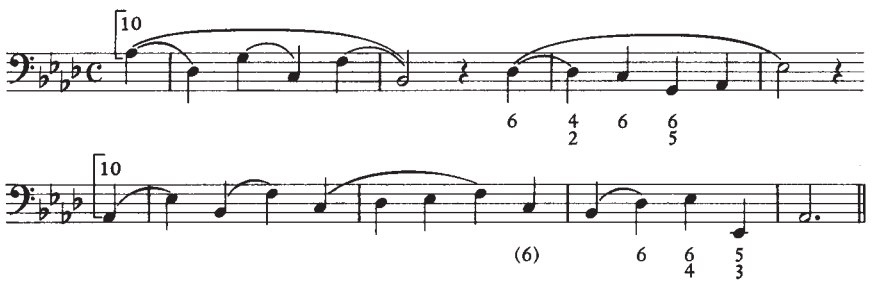
2. An ascending or a descending scalar bass signals the model of a 5-6 sequence.
3. Exceptional procedures justified by sequences in descending 5ths and ascending 5-6 are:
   a. doubled leading tone OK if not just before a goal tonic.
   b. diminished $\frac{5}{3}$ OK if not at beginning or end.
   c. the melodic A4 is OK in sequences based on descending 5ths.
4. The ascending and descending 5-6 sequences can lead to a tonicized V.
5. In minor, the easiest sequences to use are those that move down—the descending-5th and descending-3rd types.
6. Remember the following points when using ascending sequences in minor:
   a. When moving up from i by ascending 5ths, omit the step ii°-VI to avoid the diminished triad ii°.
   b. When moving up from III by ascending 5ths, stop at V to avoid the diminished triad ii°; using the ascending 5-6 series, however, makes it possible to continue to VI or natural VII.
   c. Moving up from V requires chromatic inflection, so avoid that for the present.

EXERCISES

Note. From now on, you should be aware of sequential repetitions in a given melody or bass, and you should preserve the sequence in your harmonization. Remember that scale patterns in the soprano or bass can often be set sequentially, and that melodic repetition by stepwise descent in the soprano often indicates a sequence with descending 5ths (as in Example 18-3).

1. Preliminaries.
   a. Write a short progression in major using 5-6 technique over an ascending bass (in whole notes), lead to IV, and make a cadence.
   b. Using the following pattern, continue to ii^{7} and make a cadence. Do the same thing in the key of G♯ minor (lead to ii^{ø7}).

   c. Using the following pattern, continue to V. Extend V by a deceptive cadence before going on to I.

2. Figured bass.



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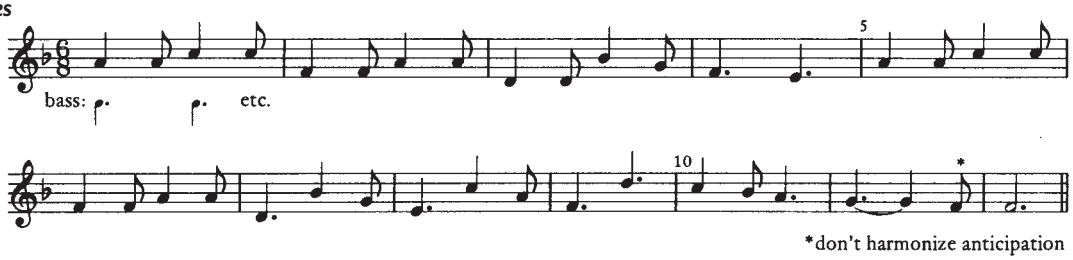
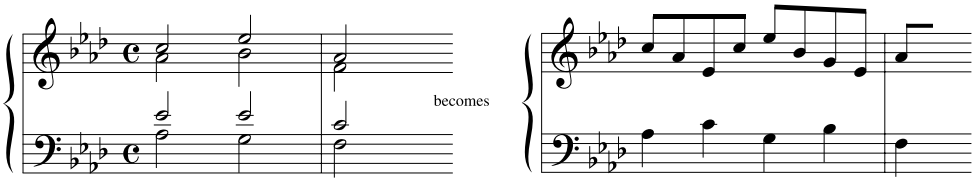
3. Melody.

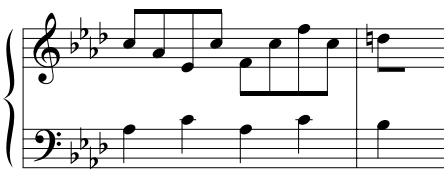
MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

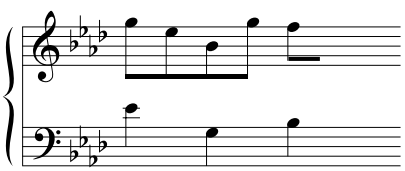
4. Melody

5. Write a group of three phrases beginning in A♭ major and modulating to its dominant. Use chordal sequences expressed in the arpeggiated texture of an idiomatic keyboard style (see the given model). The first phrase should start off with a descending 5-6 sequence, following the model, and it should lead to a cadence. The second phrase should start on the tonic, but reinterpret that harmony as IV in the dominant key (E♭ major). This phrase should be based on the ascending 5-6 sequence (syncopes), should use only tones belonging to E♭ major, and should lead to an E♭ tonic chord without making a formal cadence; in other words, it is a transitional phrase, or a passage of *Fortspinnung*. To make an effective transition, overlap the second and third phrases: the E♭ tonic chord that begins the third phrase is at the same time the goal of the preceding phrase. The third phrase should lead to a cadence in E♭.

(a) first phrase



(b) second phrase



(c) third phrase

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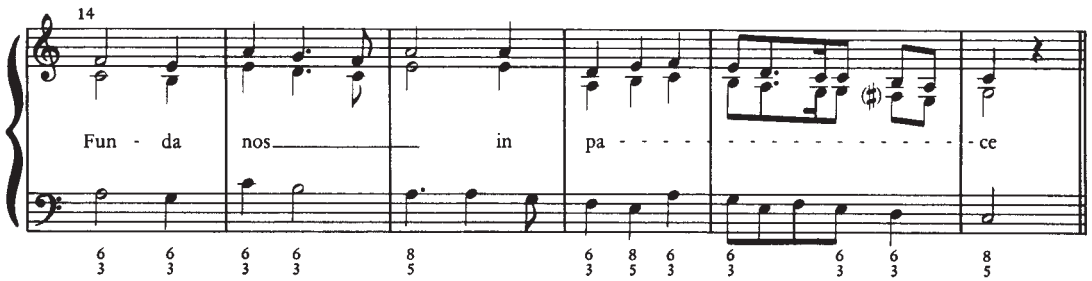
UNIT

19

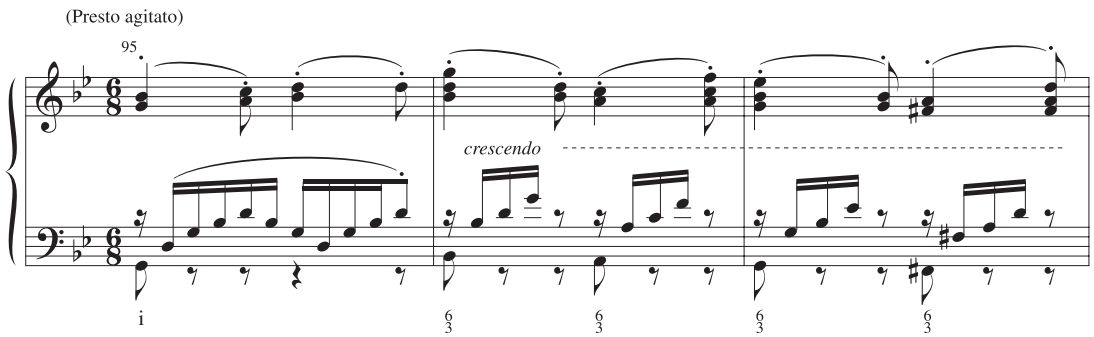
$\frac{6}{3}$-Chord Techniques

19-1 *Dufay, Ave Maris Stella*



translation: Establish us in peace.

19-2 *Mendelssohn, Songs without Words, Op. 53/3*



MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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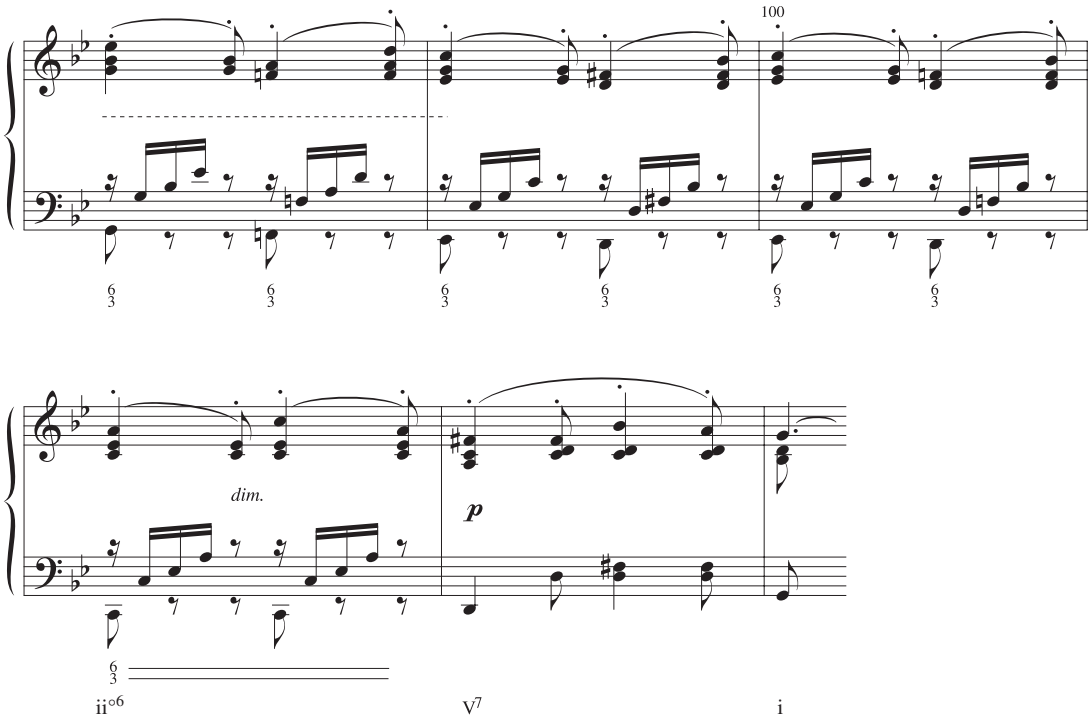
$\frac{6}{3}$ Chords in Parallel Motion

1. *Transitional Passages in $\frac{6}{3}$ Chords.* A casual glance would reveal little if any similarity between the two excerpts in Examples 19-1 and 19-2, the first from a hymn by Dufay (c. 1400–1474), the other from a piano piece by Mendelssohn (1809 to 1847). The pieces represent vastly different styles; they display a contrast in texture and sound that could hardly be greater. Nevertheless, the two passages have one significant element in common: both are based on the use of $\frac{6}{3}$ chords in extended parallel motion. The Dufay excerpt bears witness to the fact that the use of parallel $\frac{6}{3}$ chords is a very old technique, dating back to the early Renaissance. Originally a device characteristic of both improvisational practice (*fauxbourdon,* English discant) and composition, it remained an important technique throughout the history of triadic music.

$\frac{6}{3}$ chords form perhaps the ideal sonority for extended parallel motion. In close position they do not contain the interval of the 5th; parallel 5ths, therefore, need not be a stumbling block, as they must inevitably be if a series of $\frac{5}{3}$ chords appears in parallel motion. Furthermore, in a passage of extended parallel motion, the single chords tend to lose their individual identity and merge into a continuous linear flow. Such a passage, therefore, like the sequences discussed in the last unit, can function appropriately as a transition from one stable point to another. The characteristic interval of the 6th gives the $\frac{6}{3}$ chord a more fluid, less stable sound than the $\frac{5}{3}$, a quality particularly well suited to passages of a transitional nature.

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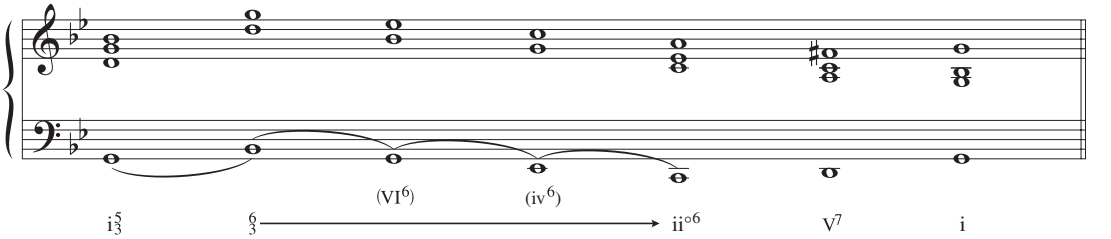
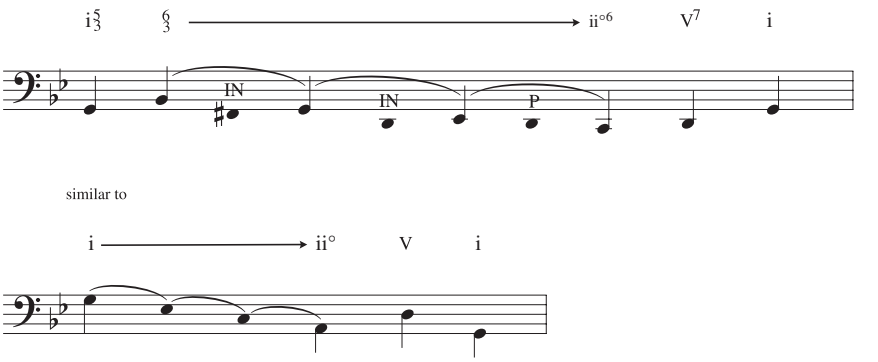
The fluid character of passages in $\frac{6}{3}$ chords is evident in both of our excerpts. In the Dufay hymn, the $\frac{6}{3}$'s provide a sense of motion and the $\frac{8}{5}$'s (bars 16 and 19) sound like goals. In the Mendelssohn piece, the $\frac{6}{3}$'s form a bridge from the tonic of bar 95 to the cadential ii^{o6} of bar 101. This transition is a contrapuntal, not a harmonic, one. Because the individual chords do not stand out, it would be misleading to describe what happens in such a series as a "harmonic" progression: for example, i-i^6-VII^6-VI^6-V^6, and so on. Only the beginning and the end of the series will normally receive enough emphasis to form a point of articulation. In the Mendelssohn, the i^6 that begins the series is important as an expansion of the initial tonic; the ii^{o6} at the end is important because of its cadential function. The motion from i^6 to ii^{o6} divides into two-bar groups as shown in Example 19-3a.

19-3

(a) reduction of 19-2



(b) bass line



compare with Example 18-1b

2. *6ths between the Outer Voices.* Just as consecutive or recurrent 10ths help to organize the relationship between the outer voices, so do 6ths. They do not appear between the outer voices in as many progressions as do 10ths, but an extended series of $\frac{6}{3}$ chords has 6ths, not 10ths, between the bass and the soprano. In the Dufay excerpt (Example 19-1), the outer voices move in 6ths

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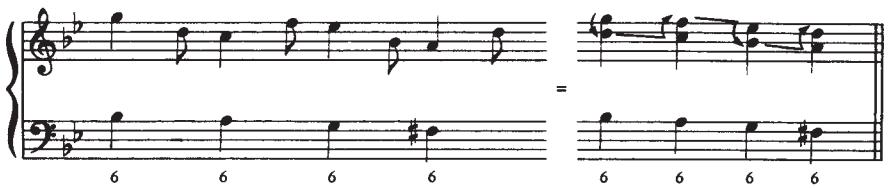
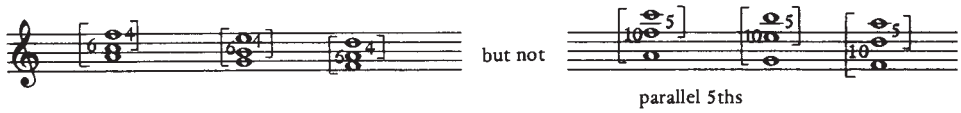
and the two upper voices in parallel 4ths. (These parallel 4ths are absolutely correct.) The Mendelssohn piece does the same thing in a more elaborate manner (see the reductions, Example 19-4). The soprano line is a *polyphonic melody* that implies two voices that move in parallel 4ths, as in the Dufay.

19-4 *reductions of Example 19-2*

As Example 19-5 shows, a series of parallel $\frac{6}{3}$ chords will not normally have 10ths between the outer voices because of the 5ths that would occur between the two top parts.

19-5 *parallel $\frac{6}{3}$ chords*



3. *Parallel $\frac{6}{3}$ Chords in Four Voices.* The Dufay and Mendelssohn excerpts indicate that the use of parallel $\frac{6}{3}$ chords is essentially a three-voice technique. (The Dufay is obviously written in three voices. The reduction in Example 19-3 shows that the Mendelssohn excerpt, too, has only three real voices; the other tones are octave duplications.) With careful attention to doubling, a series of parallel $\frac{6}{3}$'s can occur in four-part writing. The main problem is avoiding parallel octaves; the solution is to allow one of the voices to forego parallel motion and to alternate doublings. Example 19-6 shows a number of possibilities. Of its ten progressions, all but Examples 19-6e and j contain recurrent (sequential) patterns of alternate doublings, and all ten are good; the choice often depends on the doubling that sounds best in the emphasized last chord. Remember not to double the leading tone if the tonic triad follows and to avoid the melodic augmented 2nd in minor.

Series of parallel $\frac{6}{3}$ chords can both descend (Examples 19-6a–e) and ascend (Examples 19-6f–j). However, descending progressions are much more frequent.

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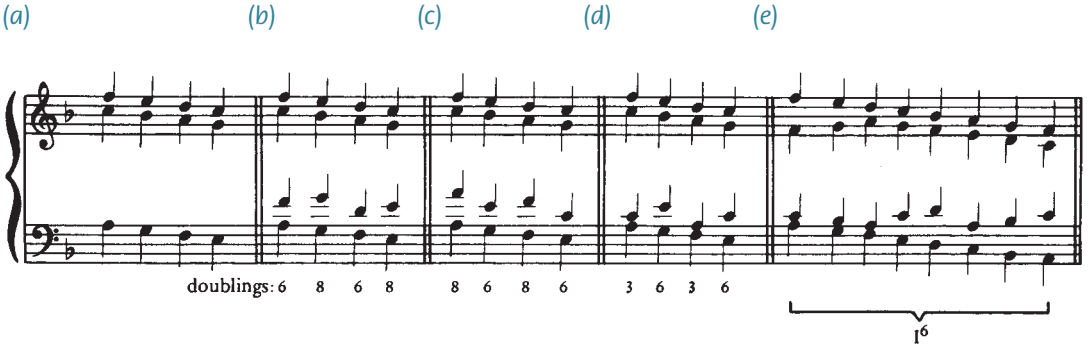
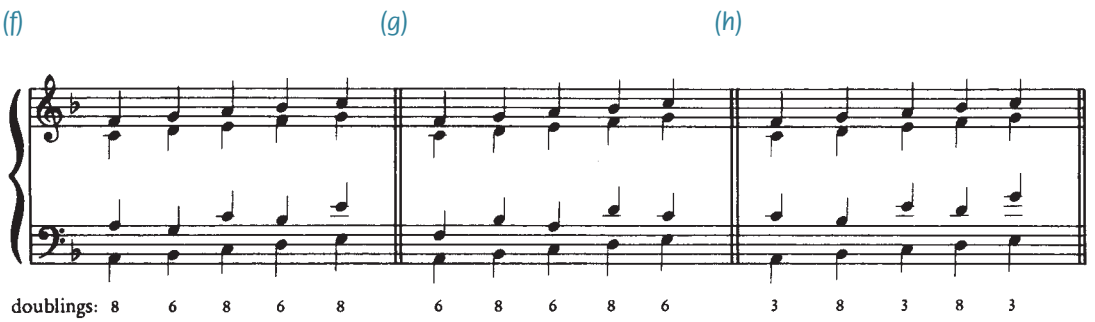
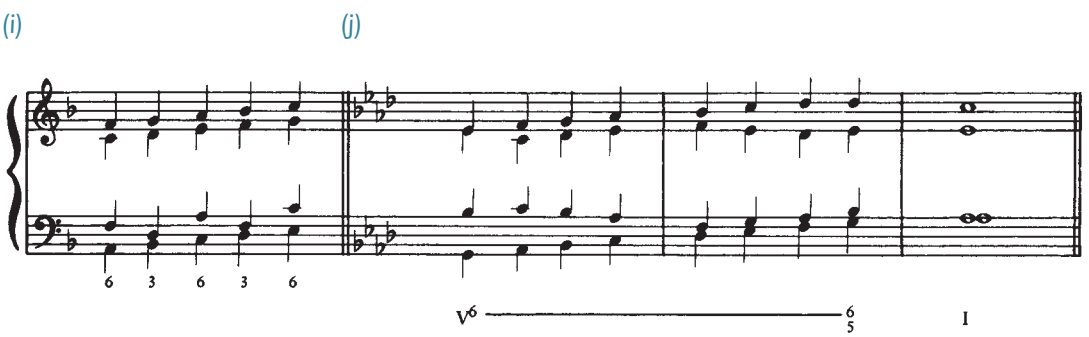
19-6

descending progressions



ascending progressions





4. *Variants in the Use of Parallel $\frac{6}{3}$ Chords.* Quite often a passage mostly in parallel $\frac{6}{3}$ chords will contain one or more $\frac{5}{3}$ chords, will depart momentarily from parallel motion, or will show other "irregularities." Thus, Example 19-7 is a variant of the progression shown in Example 19-6e. Instead of maintaining parallel motion, however, the soprano has a voice exchange with the bass that shifts it into a higher register and allows it to end an octave higher; this is a *double voice exchange* with two 6ths and two 10ths. A consequence of this voice exchange is the $\frac{5}{3}$ chord on the third beat. If nothing but $\frac{6}{3}$ chords were used, the

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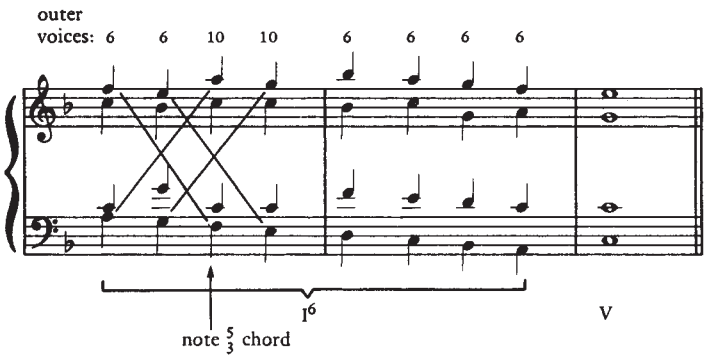
10ths between the outer voices would lead to parallel 5ths (Example 19-5). This danger exists even in a succession of only two chords unless one of the 5ths is diminished.

19-7 *voice exchange produces $\frac{5}{3}$ chord*



Example 19-8 shows four excerpts from the third movement of Handel's Concerto Grosso, Op. 3, No. 1, in which the use of parallel $\frac{6}{3}$ chords is exceptionally clear and instructive. Note that in all the excerpts, the texture is in three voices. Composers will often change to three voices for passages using parallel $\frac{6}{3}$ chords, an option not available to you in exercises in four-part vocal style but possible when you are working in a free keyboard or other instrumental style.

Example 19-8a, the opening of the movement, contains two phrases. The first, characterized by imitation between the outer voices, contains $\frac{6}{3}$ usages familiar from previous units (such as vii^{o6} passing from i^6 to i). The second phrase, like the first, begins with imitation; however, the last soprano tone of bar 3 becomes F♮ to allow a stepwise descent in parallel $\frac{6}{3}$'s. The motion in $\frac{6}{3}$'s continues until V^7 arrives in bar 4. The chord just before V^7 is iv^6, emphasized by longer duration and by the suspension (7-6) that delays its 6th, C.

Example 19-8b uses a variant of the same theme, but in the mediant, B♭ major. This time the descending 6ths do not continue beyond two eighth notes. Instead the soprano shifts to a higher position, forming a pair of 10ths with the bass, as in 19-7. To avoid 5ths and, at the same time, to emphasize the subdominant, a $\frac{5}{3}$ chord appears on the downbeat (the continuo player would complete this chord); on the second beat the soprano moves up once more, regaining the interval of a 6th but now an octave higher. An interesting feature of the voice leading is the continuation of the parallel 10ths in the middle part.

Example 19-8c is in D minor, the key of the minor dominant. It contains two double voice exchanges, after which the 6ths continue. Since the first chord in bar 21 contains a diminished 5th, Handel can write two consecutive $\frac{6}{3}$ chords with 10ths between the outer voices.

Example 19-8d shows the conclusion of the movement. Like the opening statement, it consists of two phrases. Here, however, there is no imitation in the second phrase; instead, the outer voices move in 10ths filled in by the model of the descending 5-6 sequence familiar to us from Unit 18.

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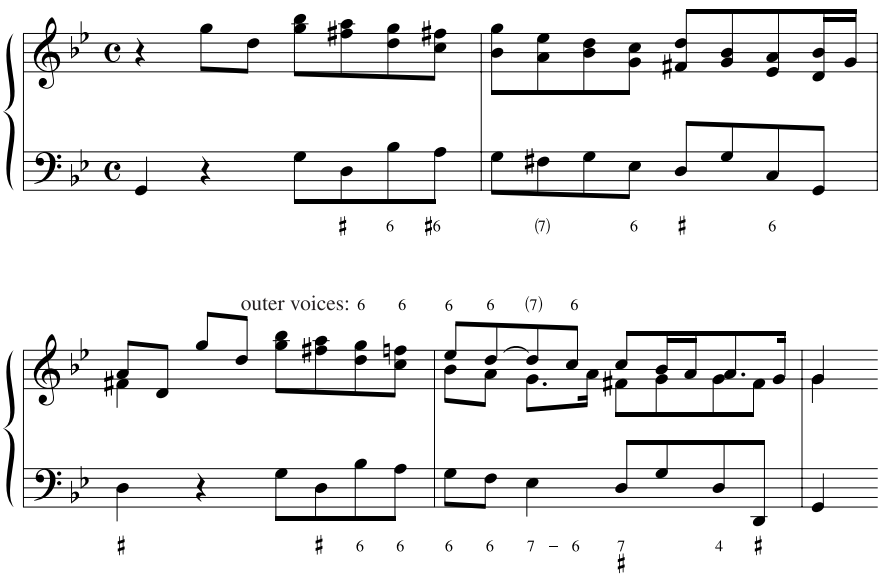
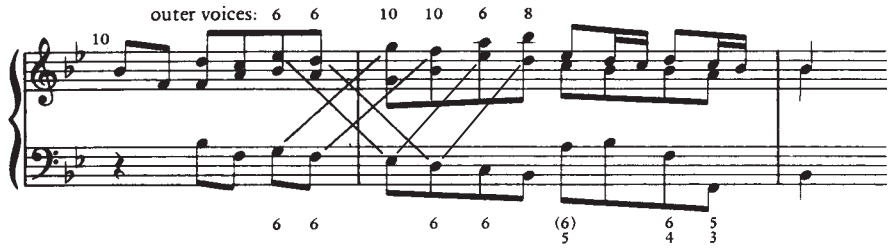
19-8 *Handel, Concerto Grosso, Op. 3/1, III*

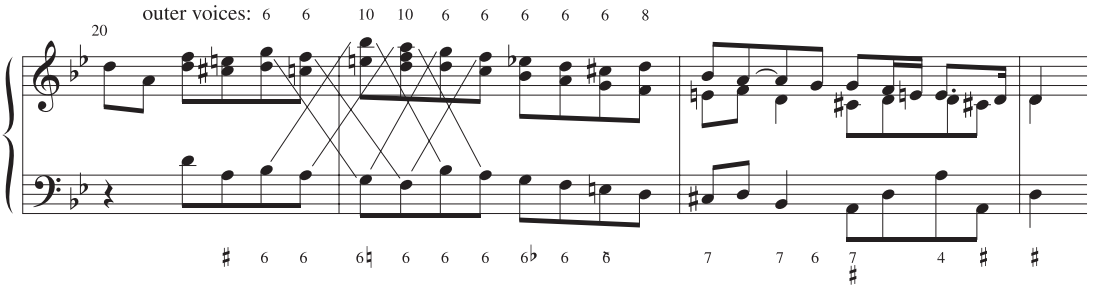
(a)



(b)



(c)



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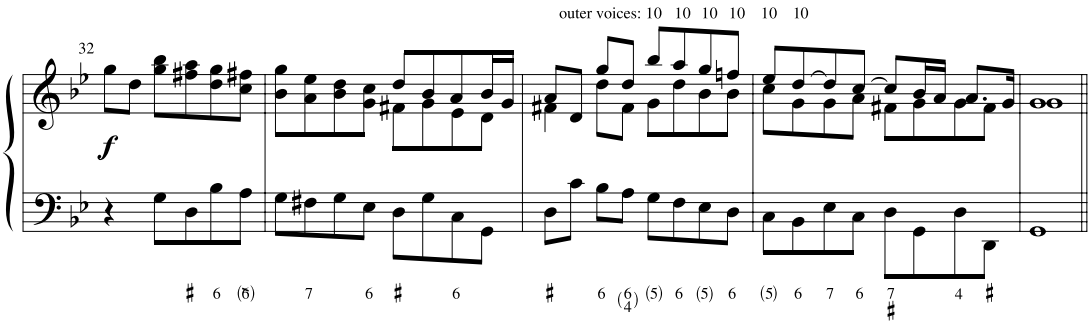
(d)

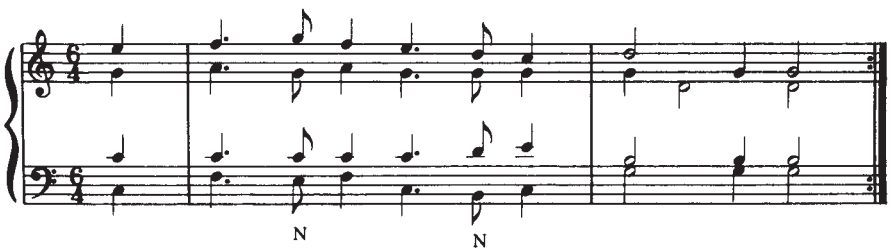


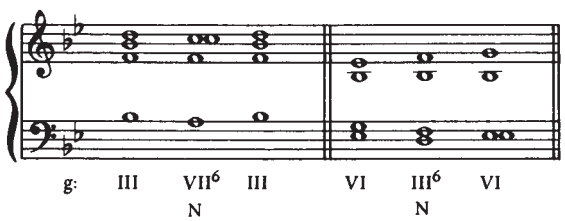
Other Uses of $\frac{6}{3}$ Chords

Most of the techniques described in connection with $\frac{5}{3}$ chords in Unit 17 can be applied to $\frac{6}{3}$ chords as well. Because the techniques are mostly familiar, we will describe these $\frac{6}{3}$ usages rather briefly, summing them up in the last example of this unit.

5. *The Neighboring $\frac{6}{3}$.* We are already very familiar with the most important neighboring $\frac{6}{3}$ chords: V^6 as N or IN to I, and vii^{o6} as N to I or I^6. Between other scale degrees, a neighbor in the bass works best when the bass moves a half step. Thus, I^6 as N to IV is usually better in major than in minor, whereas i^6 is generally altered (I^6) to form an applied dominant, V^6 of IV. Example 19-9 shows some possibilities.

19-9 *neighboring $\frac{6}{3}$*

(a) Praetorius (1571–1621), Bransle Gentil

(b) *(c)*



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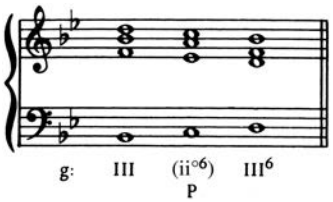
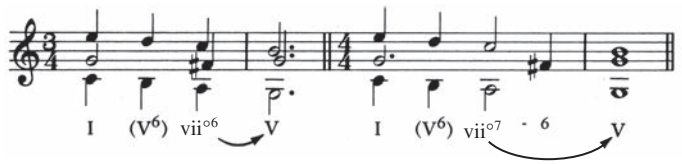
6. *The Passing $\frac{6}{3}$.* Most often a passing $\frac{6}{3}$ connects a root-position triad with its first inversion, as in the familiar progressions I-(vii^{o6})-I^6, V-(IV^6)-V^6, and ii-(I^6)-ii^6. On other scale degrees, the passing $\frac{6}{3}$ is usually altered to form an applied vii^{o6} unless the effect of a leading-tone chord occurs naturally as in III-(ii^{o6})-III^6 in minor, which briefly tonicizes III (Example 19-10).

19-10 *passing $\frac{6}{3}$*



Sometimes a passing $\frac{6}{3}$ will connect two chords whose bass tones lie a 3rd apart; you encountered this possibility in connection with the descending 5-6 technique (sequence falling in 3rds) in the preceding unit. You will remember that such sequences normally begin with a motion from I down to vi, the two chords connected by a V^6. A passing V^6 can also introduce an applied chord as part of a descending progression from I to a tonicized V; the applied chord will be vii^{o6} or V$^4_3$ of V. Example 19-11a illustrates the simplest version of this possibility. Frequently, especially in duple time, the applied chord will be extended to permit the goal V to fall on a strong beat; characteristically, the lengthened chord will be animated by a suspension into the leading tone of V (19-11b).

19-11 *passing V^6*

(a) *(b)*

A passing minor dominant in $\frac{6}{3}$ position can lead from i to the iv^6 of a Phrygian cadence, thus producing a completely stepwise bass motion through the descending 4th, $\hat{1}$-$\hat{5}$. Example 19-12 illustrates this possibility. A characteristic feature of this excerpt is the 7-6 suspension into the 6th of iv^6. Such suspensions are almost invariably found in connection with this progression.

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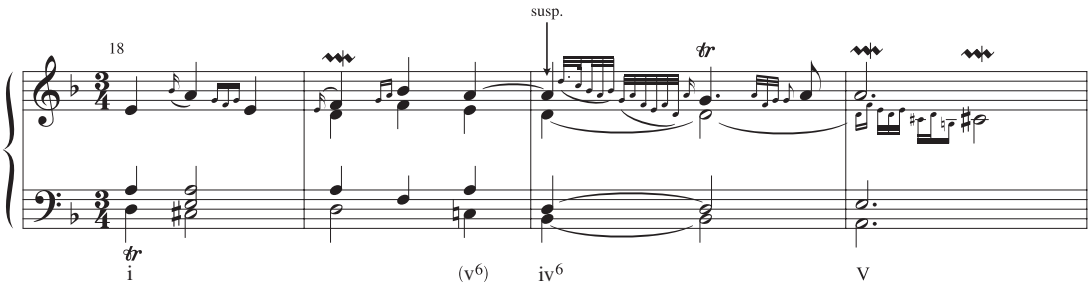
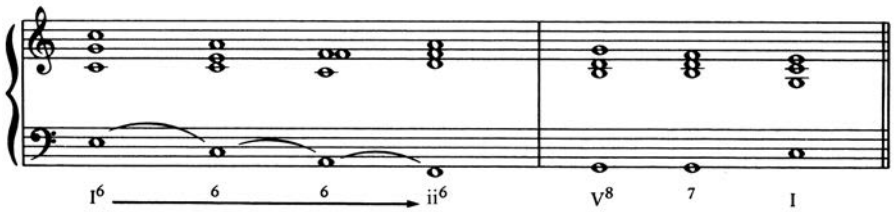
19-12 *Handel, Adagio* *(from Harpsichord Suite No. 2)*



7. *Motion in 3rds.* Parallel $\frac{6}{3}$ chords normally occur in stepwise motion, as in the earlier examples of this unit. Parallel $\frac{6}{3}$'s can also leap in 3rds, though not very frequently and never for very long (Example 19-13). Sometimes a stepwise progression will conceal an underlying motion in 3rds, as in the Mendelssohn excerpt of Example 19-2.

19-13 $\frac{6}{3}$*'s moving in 3rds*



8. *(vi^6) and (iii^6) Representing I and V.* Excerpts from compositions by Chopin and Brahms (Examples 19-14 and 19-15) seem to feature vi^6 as their opening chords. In the Chopin example, however, the 6th above the bass decorates the 5th, and in the Brahms piece, the 6th substitutes for the 5th; the chords function as *tonics,* not submediants (compare with Example 4-10b). In the Chopin, the apparent (vi^6) results from a neighboring motion. The C♯ of the accompaniment moves directly to the B that follows; in a manner less immediately apparent, it continues the first note of the melodic line. In the Brahms, the 6th displaces the 5th entirely. However, we hear the bass tone of bar 1 as the root of a tonic chord—as indeed we would hear any tone sounding by itself in a low register at the beginning of a piece or movement. If D represents tonic harmony, then A is implied as its 5th and as the point of departure for the B♭.

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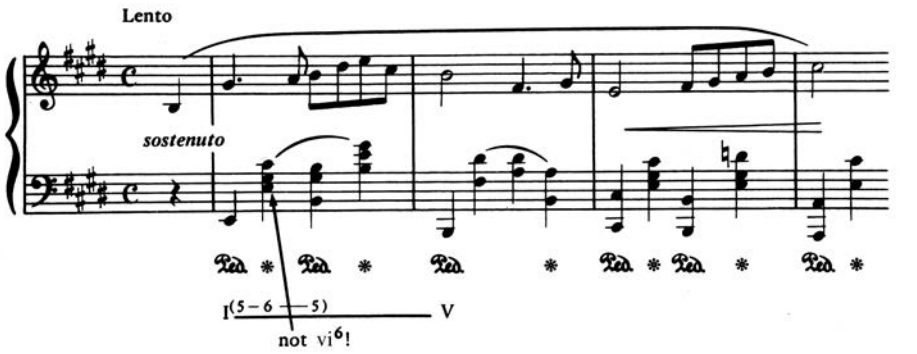
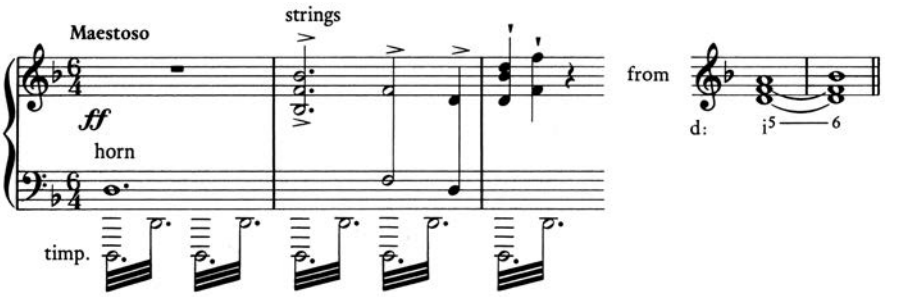
19-14 *Chopin, Nocturne, Op. 62/2*



19-15 *Brahms, Piano Concerto, Op. 15, I*



$\frac{6}{3}$ chords can embellish or substitute for $\frac{5}{3}$'s on any degree of the scale. These possibilities, however, are most significant in connection with the tonic and dominant degrees; $\hat{1}$ and $\hat{5}$ are such strong scale degrees that their harmonic force can be felt even when they do not support a $\frac{5}{3}$ chord. Just as (vi^6) is often a variant of I rather than an inversion of vi, so, too, (iii^6) can function as a decoration of or substitute for V. In Example 19-16, bars 14 and 15 form an expansion of V. During this expansion, the melody moves up from $\hat{2}$ to $\hat{4}$, the E of bar 14 functioning as a passing tone. The G in the bass that supports this passing tone functions as V; the chord, therefore, is not a iii^6 but, rather, part of an expanded dominant. In Example 19-17, the top voice of bar 7 duplicates that of bar 3. The 6th above the bass makes this repetition possible without contradicting the impression of a V-I cadence.

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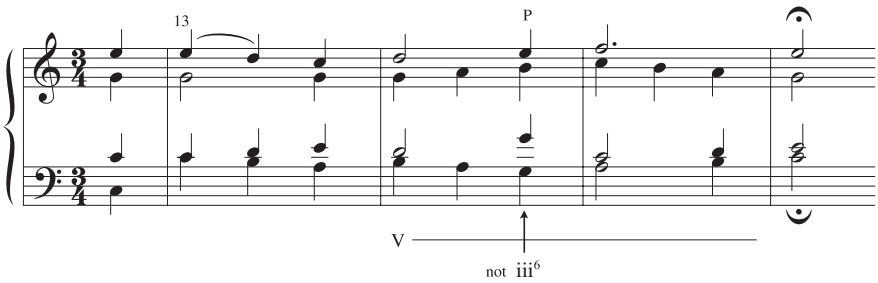
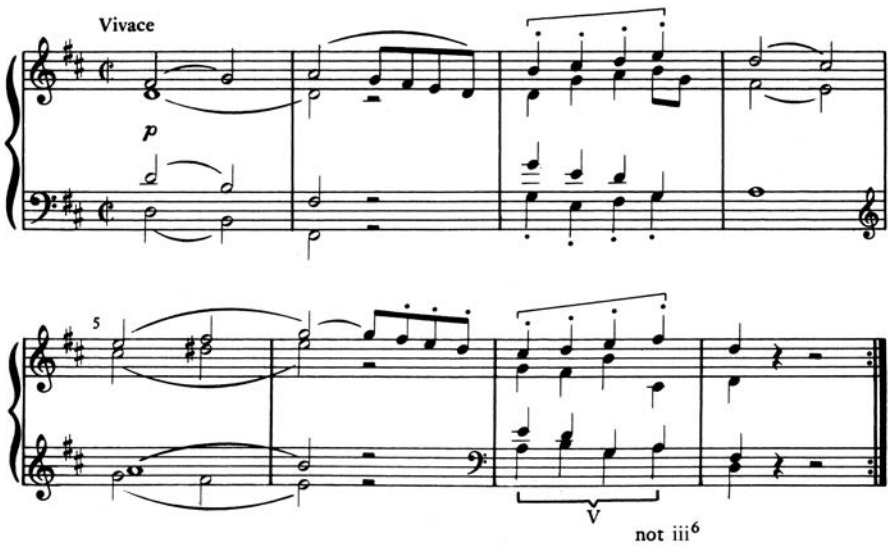
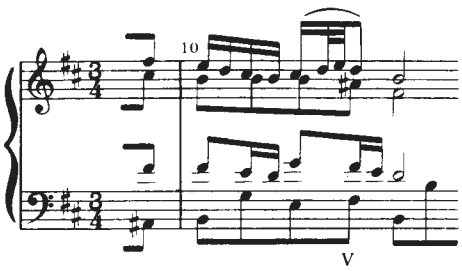
19-16 *Bach, Chorale 11*



19-17 *Haydn, Symphony No. 101, IV*

If a 6th decorates or substitutes for a 5th over V in minor, an apparent augmented triad (in $\frac{6}{3}$ position) will result. Most instances of "augmented III" in minor are examples of this usage; as far as their function is concerned, these are not augmented mediants at all but V's (Example 19-18).

19-18 *Bach, Air* *(from Suite No. 3)*



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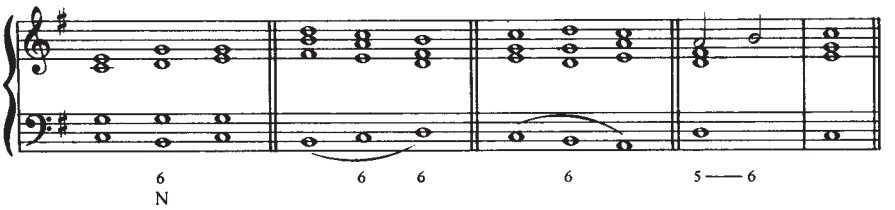
In Example 19-2, measure 99, second half, the augmented $\frac{6}{3}$ is a neighboring chord of contrapuntal, rather than harmonic, significance. Mendelssohn uses $\hat{\sharp 7}$ because the "alto" part is going to move up rather than continuing to descend. In this phrase, all the F's that move down are ♮s, and all F's that move up are ♯s.

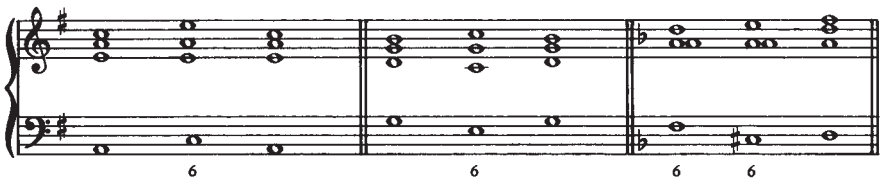
9. *Synopsis of $\frac{6}{3}$ Functions.* Example 19-19 lists the important contrapuntal functions of $\frac{6}{3}$ chords. All these functions have been explained in either this or a preceding unit (especially Unit 17). Thus, although a few of the progressions may be unfamiliar, you should have no difficulty in understanding their significance.

19-19 $\frac{6}{3}$ *functions*

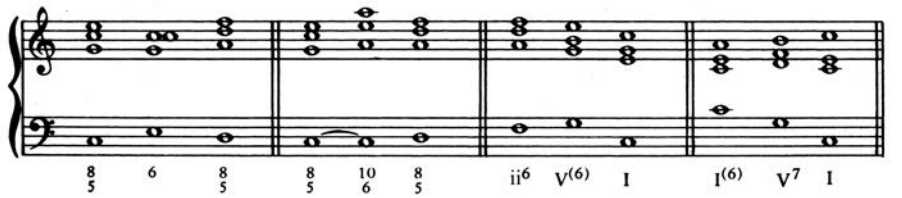
(a) neighboring *(b) passing* *(c) passing* *(d) passing*

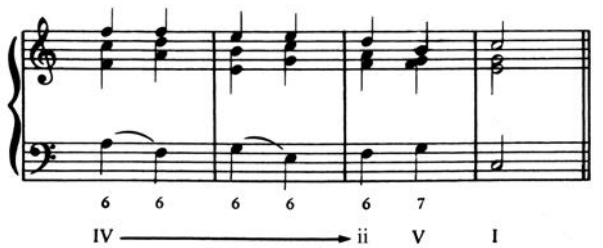


(e) expanding $\frac{5}{3}$ *(f) substituting for* $\frac{5}{3}$ *(g) substituting for* $\frac{5}{3}$



(h) voice leading *(i) voice leading* *(j) 6 displacing 5* *(k) 6 displacing 5*



(l) from 5-6 (first chord substitutes for $\frac{5}{3}$*)*

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POINTS FOR REVIEW

1. Extended passages in parallel motion in which the outer voices typically move in 6ths are characteristic of $\frac{6}{3}$ chords. In four voices, careful doubling is necessary to avoid parallel octaves (Example 19-6).
2. 10ths between the outer voices are not suitable for extended motion (danger of 5ths), but brief segments may occur, often as the result of *a double voice exchange* and often involving the use of a $\frac{5}{3}$ chord (Examples 19-7 and 19-8).
3. Other contrapuntal uses of $\frac{6}{3}$ chords are as
   a. neighboring chords (Example 19-9).
   b. passing chords (Examples 19-10 and 19-11).
   c. chords allowing motion in 3rds (Example 19-13).
4. (vi^6) and (iii^6) usually stand for I and V (Examples 19-14, 19-15, and 19-16).

EXERCISES

Note. In instrumental textures, including figured-bass realizations, passages in parallel $\frac{6}{3}$ chords are often set for three voices. However, it would be a good idea for you to use four voices in these exercises to gain practice in working out the doublings.

1. Preliminaries. Figured-bass fragments.

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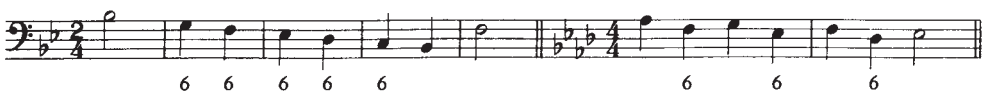
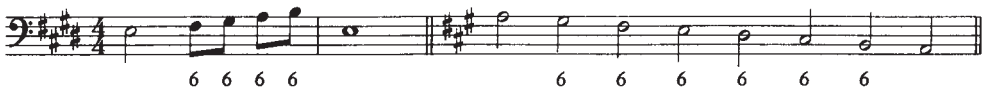
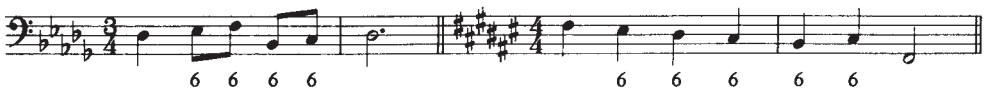
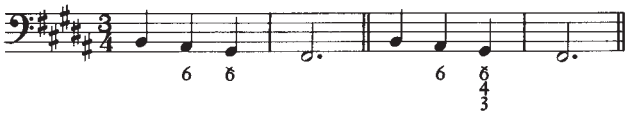

(c) (d)

(e) (f)



(g) (h) soprano different from (g)

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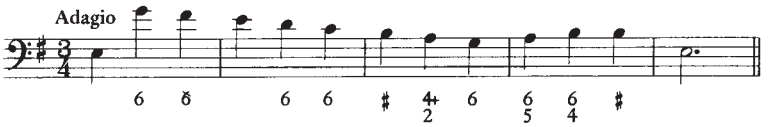
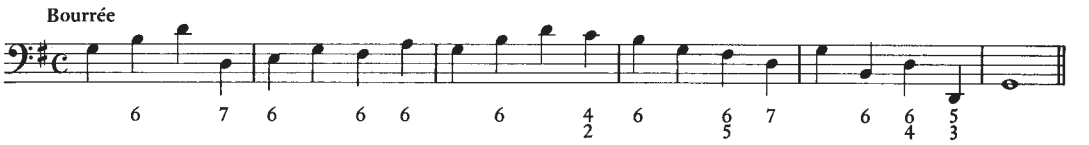
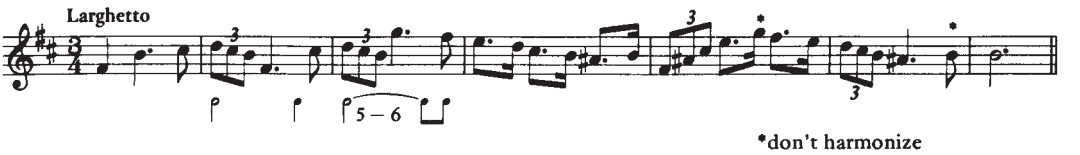
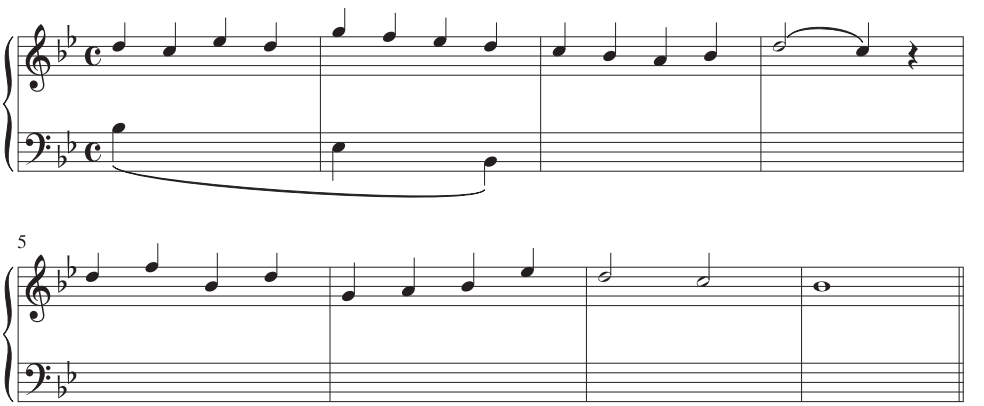
2. Figured bass (adapted from Handel). Use four voices wherever possible, reducing to three where necessary. Because of the high register of Handel's bass, vocal ranges need not be strictly observed.

3. Figured bass (adapted from Handel). Set in keyboard style.

4. Melody (adapted from Handel).

MINDTAP

Guided Exercises

This exercise's step-by-step audiovisual solution is available on MindTap.

5. Begin by adding the cadential bass notes in bar 4 and bars 7–8. The soprano pattern $\hat{7}$-$\hat{1}$ in bar 6 suggests an evaded cadence: V^4_2-I^6.

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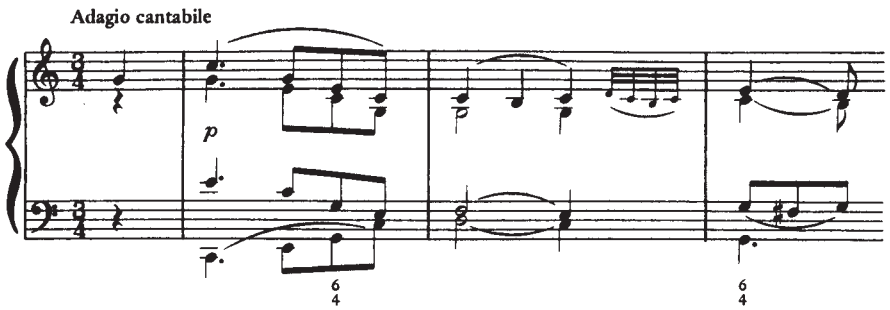
UNIT

20 $\frac{6}{4}$-Chord Techniques

20-1 *Beethoven, String Quartet, Op. 18/2, II*

1. *The Double Nature of the $\frac{6}{4}$ Chord.* The $\frac{6}{4}$ chord G-C-E occurs twice with identical spacing and doubling in the first three bars of a string quartet movement by Beethoven (Example 20-1). But although they contain the same tones, the two $\frac{6}{4}$ chords function in very different ways. The first arises out of arpeggiations within tonic harmony. It functions as an inversion of I^5_3 and is treated by the composer as a consonance: both the bass tone and the 4th, C, are approached and left by leap. The second $\frac{6}{4}$, of course, is the cadential type familiar since Unit 11; in this chord the 4th is a dissonance, resolving to B by stepwise descent.

This excerpt illustrates the most striking feature of the $\frac{6}{4}$ chord; unlike any other chord, it is sometimes consonant and sometimes dissonant. Whether it is one or the other depends not on the chord itself—as we saw, in Example 20-1, the $\frac{6}{4}$'s are identical—but on how it functions *in context*. The double nature of the $\frac{6}{4}$ results from the double nature of its most characteristic interval—the perfect 4th—which itself is sometimes consonant, sometimes dissonant

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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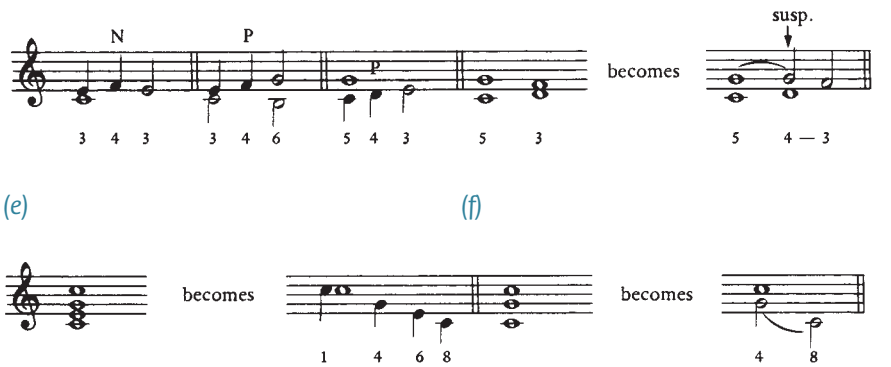
(see Unit 2, Section 11). So to understand the various ways in which $\frac{6}{4}$ chords can come about, let's look at some of the ways a 4th might appear in two-part texture (Example 20-2).

20-2 *4ths in two-part writing*

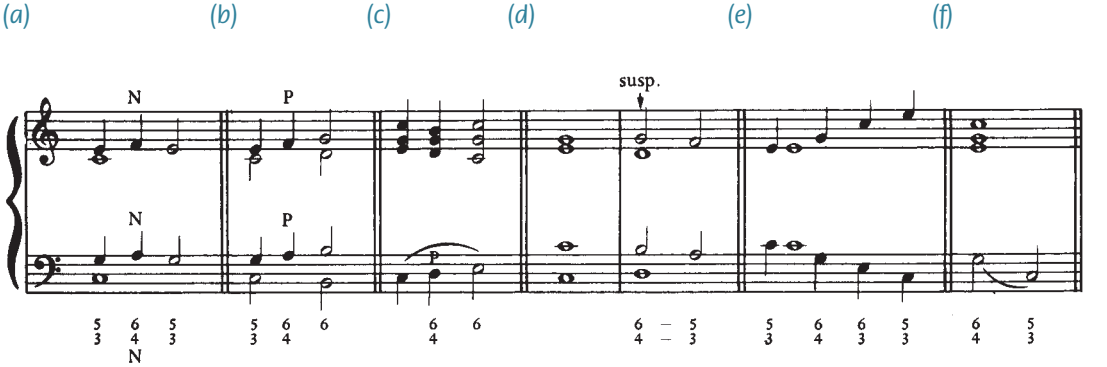


Example 20-2a shows the 4th as a neighboring tone; in Examples 20-2b and c the 4th is a passing tone. Note that sometimes it is the motion of the upper voice that produces the 4th (Examples 20-2a and b) but at other times (Example 20-2c) it is the motion of the lower voice. In Example 20-2d, the 4th is a suspension, as frequently occurs in the familiar cadential $\frac{6}{4}$. In all four of these progressions, the 4th is heard as a dissonance and is resolved by step.

In other situations, however, the 4th can be heard as consonant. If a triad (Example 20-2e) or triadic interval (Example 20-2f) is arpeggiated in the bass, for example, the 4th that might arise is consonant because it forms part of the unfolding of a consonant chord; the first $\frac{6}{4}$ chord of our Beethoven excerpt relates directly to the technique illustrated in 20-2e.

Example 20-3 shows the procedures just described in four-voice settings; here, the 4ths of Example 20-2 become $\frac{6}{4}$ chords of various types, all of which we will discuss in the following pages.

20-3 $\frac{6}{4}$ *chords in four voices*



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Dissonant $\frac{6}{4}$ Chords

2. *Three Main Types.* Most dissonant $\frac{6}{4}$ chords belong to one of three main categories: the accented $\frac{6}{4}$ ($\frac{6\text{-}5}{4\text{-}3}$), the neighboring $\frac{6}{4}$, and the passing $\frac{6}{4}$. Because these chords derive their meaning completely from their relation to a larger context, and because even a slight difference in context can alter their significance, it is impossible (and unnecessary) to categorize every conceivable situation in which $\frac{6}{4}$ chords might appear. We will present only the most typical and important usages and a few particularly suggestive exceptional cases. If you understand the principles discussed in this unit, you will have a good basis for understanding other $\frac{6}{4}$ usages you may encounter.

3. *Accented $\frac{6}{4}$ Chords.* Example 20-4 contains four $\frac{6}{4}$ chords. One of them (bar 2, beat 3) is a passing $\frac{6}{4}$ and will be discussed later. The other three are metrically accented relative to the chords of resolution—that is, they all resolve (over a stationary bass) from a stronger to a weaker beat. Two of these accented $\frac{6}{4}$'s are examples of the familiar cadential $\frac{6}{4}$ (bars 4 and 7). The one that begins bar 2, however, does not occur at a cadence, nor does it resolve to a dominant. But in all other respects it resembles the cadential $\frac{6}{4}$. The 6th and 4th, metrically accented, move down by step to the 5th and 3rd of the chord of resolution—in this case, vi. We use the term *accented* $\frac{6}{4}$ for chords of this type—those that are metrically accented and that resolve over a stationary bass. The cadential $\frac{6}{4}$ is the most important type but, as the Mozart excerpt shows, it is by no means the only possibility. Other accented $\frac{6}{4}$'s closely resemble the cadential type. The principles of doubling and voice leading are the same (review Unit 11); *so is the basic function of the accented* $\frac{6}{4}$*—to delay the arrival of an expected melodic or harmonic event.* Accented $\frac{6}{4}$'s—including cadential ones—depend on their chords of resolution; they do not function as inversions of a root-position triad. This fact should be reflected in any chordal analysis. In bar 2 of Example 20-4, therefore, the correct labeling is as shown, *not* ii$^{6}_{4}$-vi. The octaves in bars 2–3 (left hand) result from a doubling of a voice in the texture, not from voice leading.

Accented $\frac{6}{4}$'s can occur on several scale degrees, with $\hat{6}$ in major, as in the Mozart example, being a particularly frequent choice. On other scale degrees, avoid a "resolution" to a diminished $\frac{5}{3}$ except in three-part texture. On $\hat{7}$ in major and raised $\hat{7}$ in minor, doubling the 6th of the $\frac{6}{4}$ and resolving to V$^{6}_{5}$ rather than to vii$^{o}{}^{5}_{3}$ will prevent such a resolution. Example 20-5a shows this possibility in major. In minor (Example 20-5b), the $\frac{6}{4}$ contains a diminished 4th. Such a $\frac{6}{4}$ appears to be the second inversion of an augmented triad, but since the accented $\frac{6}{4}$ results from melodic motion rather than inversion, the "augmented" triad is nonfunctional here.

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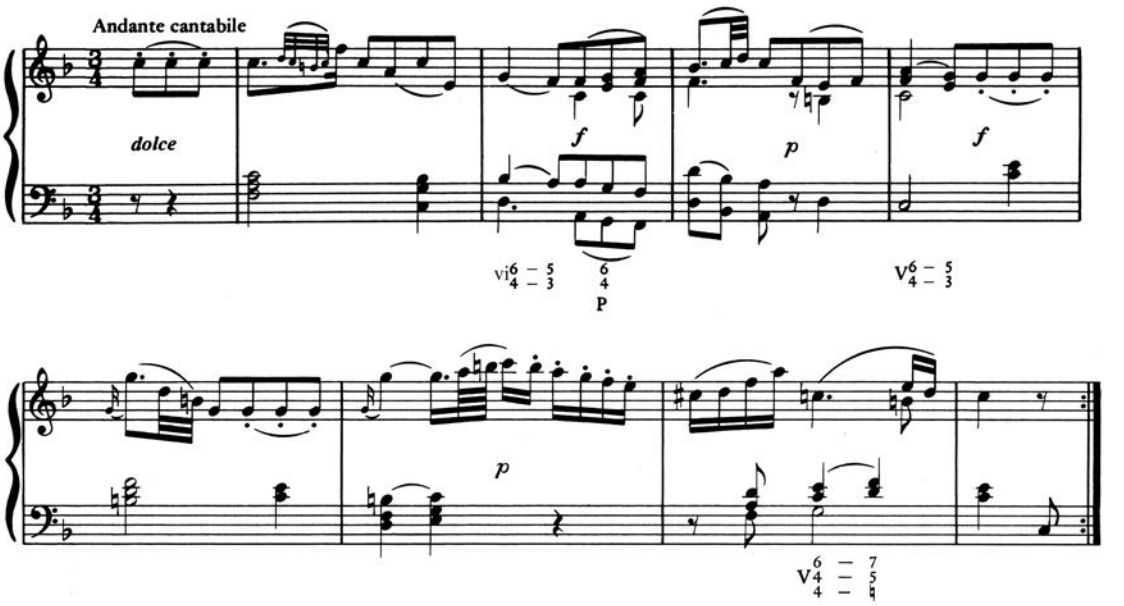
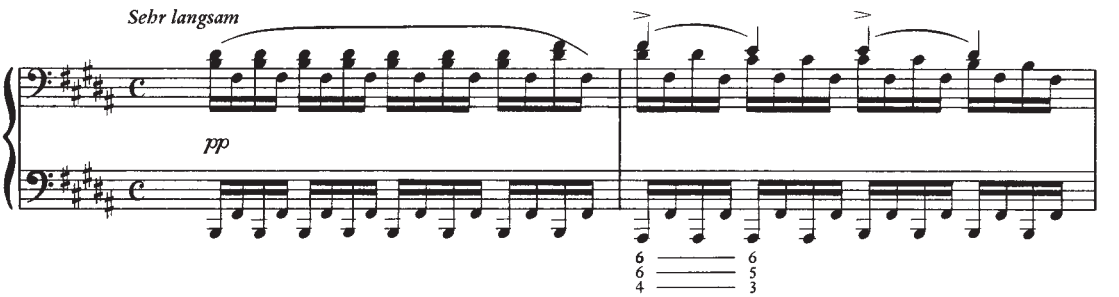
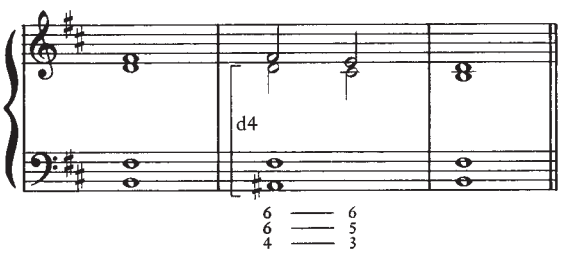
20-4 *the accented* $\frac{6}{4}$

Mozart, Piano Sonata, K. 330, II

20-5 *resolution to* $\frac{6}{5}$

(a) Schubert, "Nacht und Träume"



(b) in minor



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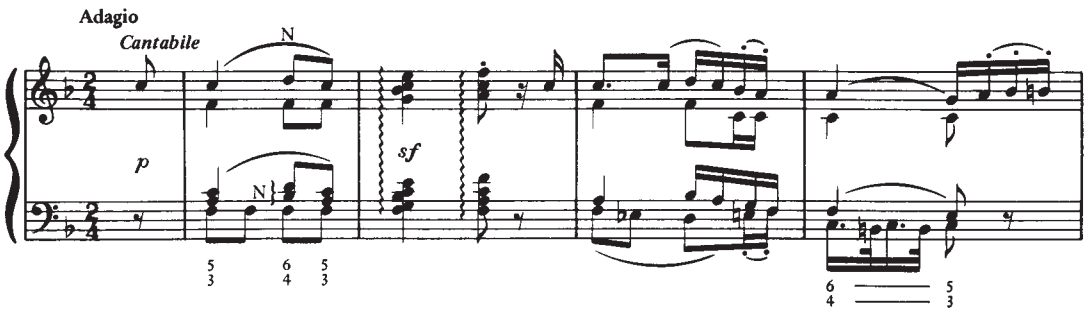
4. Neighboring $\frac{6}{4}$ Chords. Example 20-6 illustrates the second important type of dissonant $\frac{6}{4}$: the *neighboring* $\frac{6}{4}$. In this excerpt, neighboring figures $\hat{5}$-$\hat{6}$-$\hat{5}$ and $\hat{3}$-$\hat{4}$-$\hat{3}$ decorate the 5th and 3rd of tonic harmony. This type of $\frac{6}{4}$ arises out of neighboring motions performed above a stationary bass by two upper voices that typically move in parallel 3rds, 6ths, or 10ths.

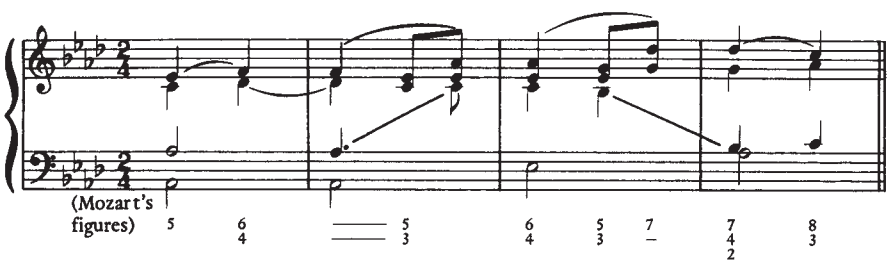
20-6 *Beethoven, Variations, Op. 34*



Usually the soprano takes one of the neighboring figures—either $\hat{5}$-$\hat{6}$-$\hat{5}$, as in the Beethoven, or $\hat{3}$-$\hat{4}$-$\hat{3}$, as in the Brahms passage we examined in Unit 14, Example 14-2. Comparing bars 1 and 2 of Example 14-2 reveals that a neighboring $\frac{6}{4}$ decorating I (by far the most frequent kind of motion) forms a sustained-bass version of IV in a I-IV-I plagal progression (also supporting a neighboring motion).

The bass of the neighboring $\frac{6}{4}$ is generally doubled. Usually this type of $\frac{6}{4}$ is unaccented, falling on a metrically weaker place than the $\frac{5}{3}$ that precedes it, thus forming a kind of opposite to the accented $\frac{6}{4}$. Sometimes the neighboring $\frac{6}{4}$ is repeated on the next strong beat, as in bar 2 of Example 20-7, the beginning of a theory exercise written by Mozart for one of his students.

20-7 *Mozart, Exercise for Barbara Ployer*



As with the accented $\frac{6}{4}$, the neighboring type functions best when the $\frac{5}{3}$ chord it decorates is not diminished.

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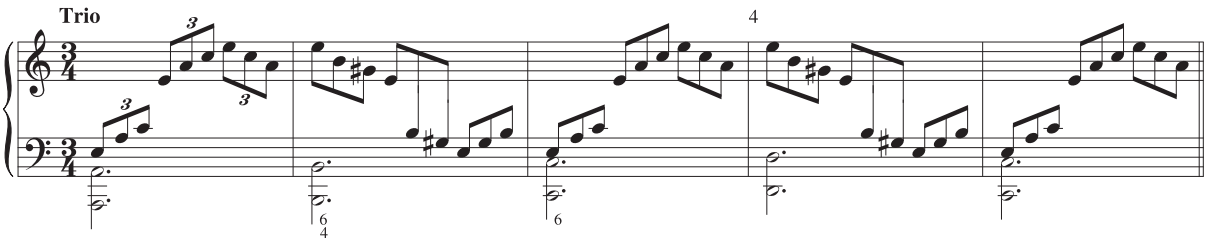
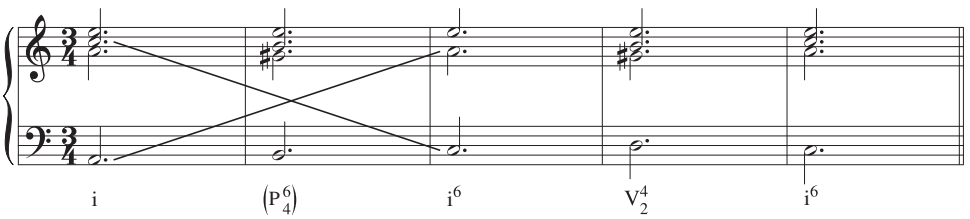
5. *Passing $\frac{6}{4}$ Chords (above a Moving Bass).* Of the various types of passing $\frac{6}{4}$'s, the most important is ($P\frac{6}{4}$) connecting I and I^6, as in Example 20-8a; the passing function of the chord in bar 2 is obvious. Notice that the passing $\frac{6}{4}$ gives you an alternative to vii^{o6} and $V\frac{4}{3}$ in leading from I to I^6 (Example 20-8b). In this usage, the 4th above the bass is a stable tone, the 5th of the tonic chord within which the $\frac{6}{4}$ moves. The active, dissonant element in this type of $\frac{6}{4}$ chord, therefore, is not the 4th but the bass tone. Passing $\frac{6}{4}$ chords often expand a harmony by moving within a voice exchange between the bass and one of the upper voices. In the Beethoven example, the voice exchange occurs between the bass and the alto, though bass and soprano is perhaps more typical (Example 20-9a). Such an exchange often causes a doubling of the bass tone of the $\frac{6}{4}$, but the consonant 4th is also a possible doubling. Passing $\frac{6}{4}$'s can appear either on unaccented (most frequent) or accented beats or parts of beats.

20-8

(a) Beethoven, Op. 2, No. 3, III, Trio



(b) reduction



Example 20-9 shows two other possibilities: expanding ii and IV. The passing $\frac{6}{4}$ can also expand seventh chords (Examples 20-10a and b). The progressions shown in 20-10b form a useful way to expand a V^7; as we shall see in Unit 32, they also constitute the basis for important chromatic elaborations.

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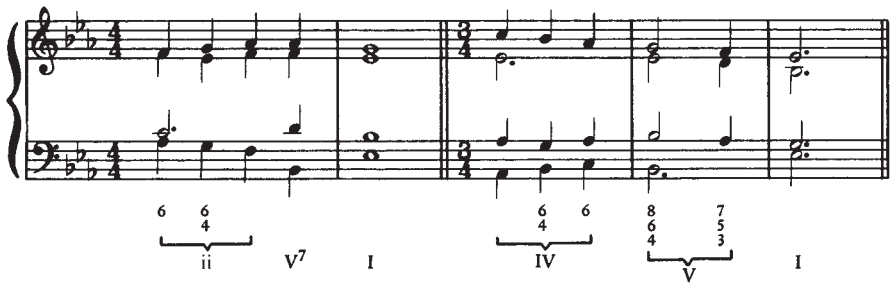
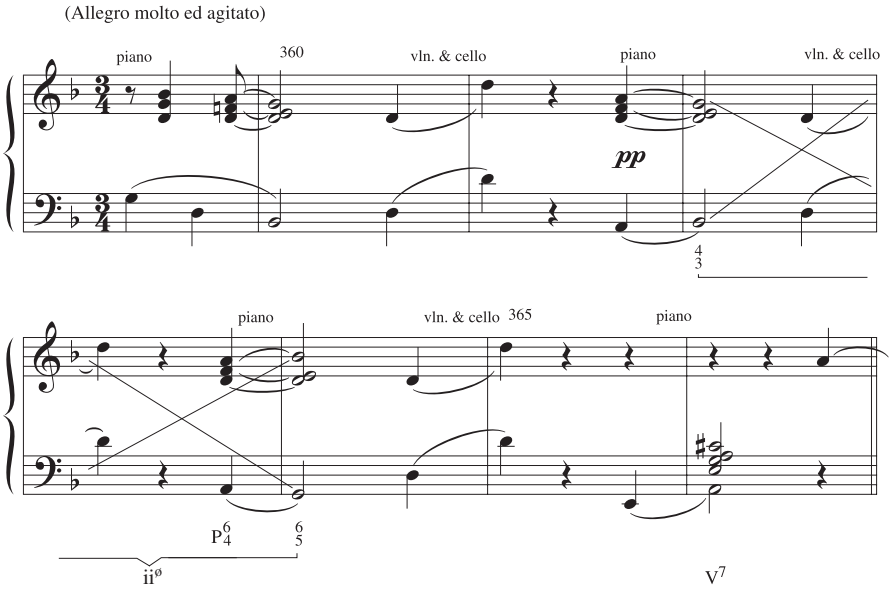
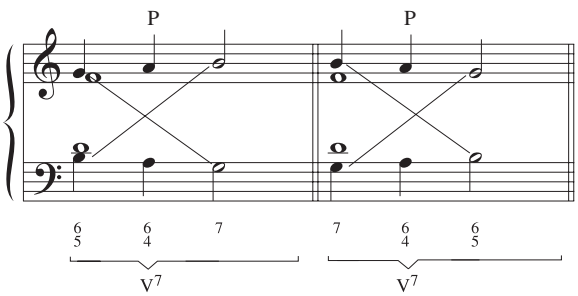
20-9 *expanding ii and IV*

(a) *(b)*

20-10

(a) Mendelssohn, Trio, Op. 49, I

(b)



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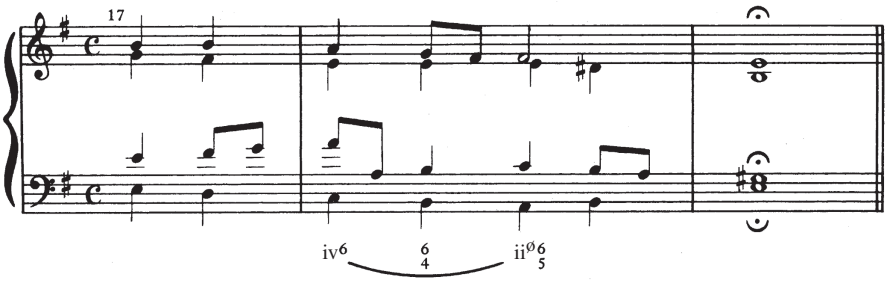
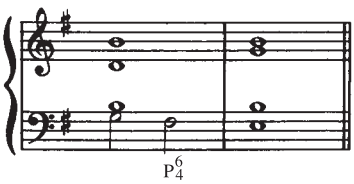
A passing $\frac{6}{4}$ between IV^6 and ii$^6_5$ (less often ii^6) is *very frequent;* the outer-voice motion is usually in 6ths (Example 20-11). The reverse (i.e., ii$^6_5$-P$^6_4$-IV^6) also occurs; these progressions may appear in both the major and minor modes.

20-11 Bach, Chorale (from the motet *Jesu, Meine Freude*)

Sometimes a passing $\frac{6}{4}$ occurs above a descending bass without any motion in the upper voices (Example 20-12). Because of the preponderance of common tones, we do not really hear a change of chord at the entrance of the $\frac{6}{4}$; such $\frac{6}{4}$'s have little vertical identity and hardly count as chords, unless the composer emphasizes them by long duration.

20-12 $\frac{6}{4}$ with sustained upper voices



6. Passing $\frac{6}{4}$ Chords (above a Sustained Bass). Sometimes a $\frac{6}{4}$ formation results from passing tones in parallel 3rds, 6ths, or 10ths moving up from the 5th and 3rd of a $\frac{5}{3}$ chord. In this type of $\frac{5\text{-}6}{3\text{-}4}$, the $\frac{6}{4}$ is virtually always metrically weak (Example 20-13). In many ways this type of passing $\frac{6}{4}$ resembles the neighboring $\frac{6}{4}$.

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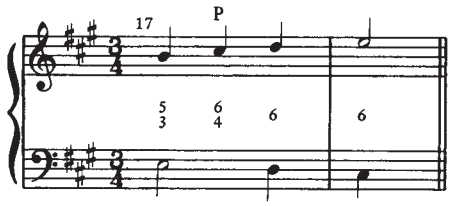
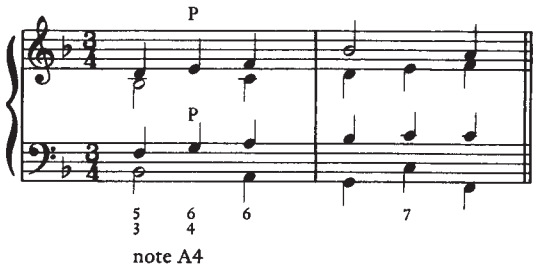
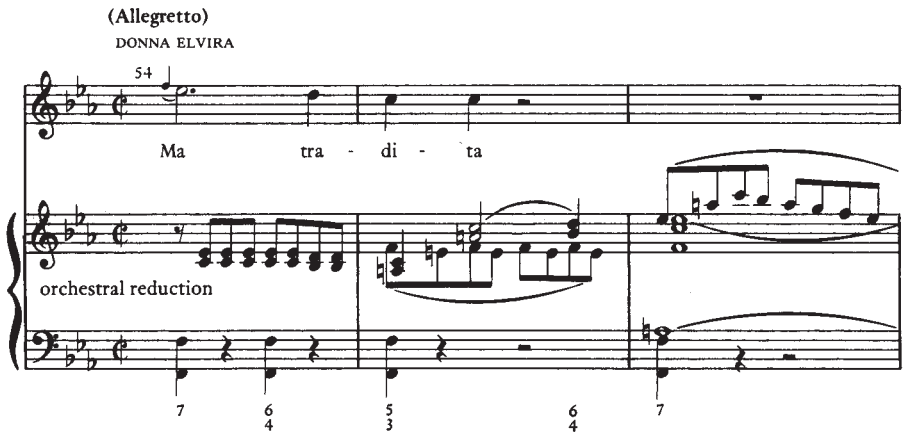
20-13 $\frac{6}{4}$ chords above sustained bass

(a) Bach, *Geistliche Lieder*, No. 47

(b)



A passing $\frac{6}{4}$ above a sustained dominant can connect V^7 with V^5_3, as in Example 20-14. In such cases, the motion to the $\frac{6}{4}$ does *not* resolve the 7th of V^7, despite the downward motion. The 6th of the $\frac{6}{4}$ is a passing tone, not a goal tone; therefore, it does not form an appropriate resolution of the dissonance. Normally, a resolution of the 7th will follow the dominant. In the aria from which our illustration is taken, the resolution appears several bars later, transferred to another voice (bass, bars 63–64).

20-14 *Mozart, "Mi tradita"* *(from Don Giovanni, K. 527)*



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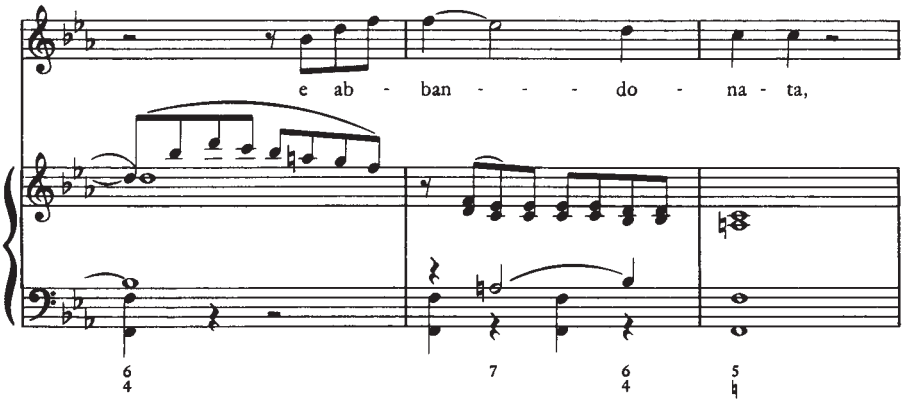
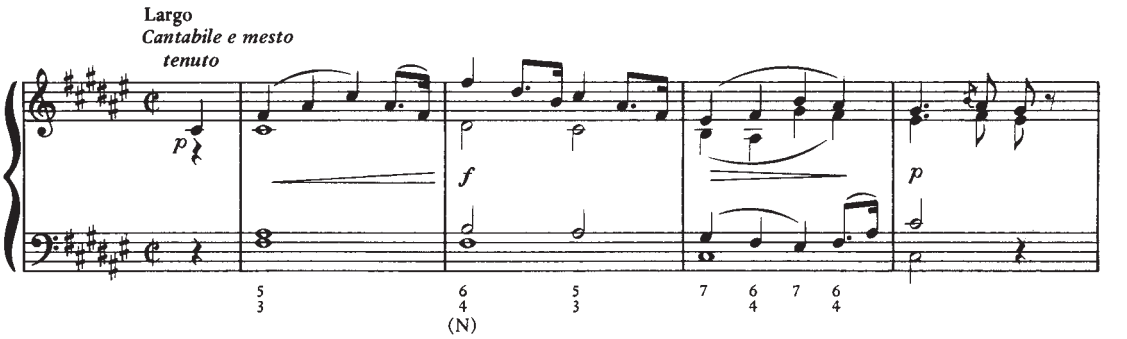


translation: But betrayed and abandoned,
[I still pity him.]

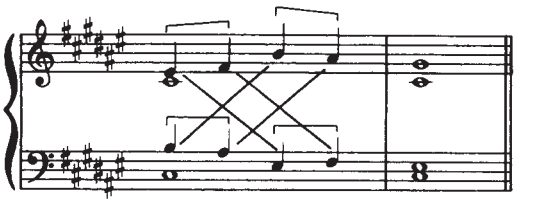
7. *Elaborated $\frac{6}{4}$ Chords (above a Sustained Bass): The Progression $\frac{8\text{-}7\text{-}6\text{-}5}{6\text{-}5\text{-}4\text{-}3}$.* Passing or neighboring $\frac{6}{4}$'s over a held bass can be elaborated in various ways. In Example 20-15a, the first-violin part (bar 3) is "polyphonic"; the single melodic line suggests two voices—$\hat{7}$-$\hat{8}$ and $\hat{4}$-$\hat{3}$. This creates the possibility for two $\frac{6}{4}$'s above the sustained bass. Frequently a voice exchange accompanies a soprano line like the one in Example 20-15a. Example 20-15b illustrates.

20-15

(a) Haydn, String Quartet, Op. 76/5, II



(b)



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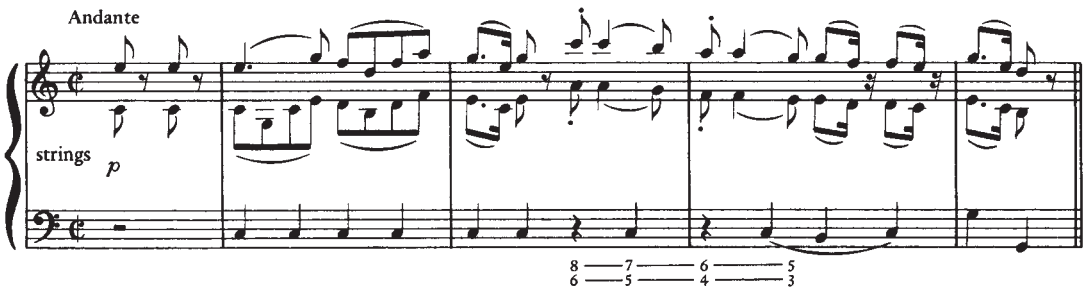
Example 20-16 illustrates another frequent possibility: Two upper voices can descend in parallel 3rds, 6ths, or 10ths, creating the interval progression $\frac{8\text{-}7\text{-}6\text{-}5}{6\text{-}5\text{-}4\text{-}3}$. This progression can have various meanings. Here, it elaborates the resolution of a neighboring $\frac{6}{4}$ over an extended I.

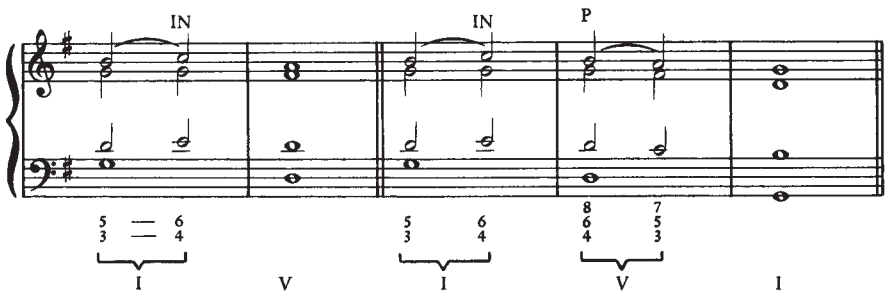
20-16 *Mozart, Eine Kleine Nachtmusik, K. 525, II*



8. $\frac{6}{4}$ Chords as Incomplete Neighbors (above a Sustained Bass). This is similar to both the passing $\frac{6}{4}$ (Section 6) and the neighboring $\frac{6}{4}$ (Section 4); Example 20-17 illustrates. Following such a $\frac{5\text{-}6}{3\text{-}4}$ by an accented $\frac{6\text{-}5}{4\text{-}3}$, usually with root motion by ascending 5th, produces one of the few progressions where two $\frac{6}{4}$ chords follow each other immediately (20-17b).

20-17 *$\frac{6}{4}$'s as incomplete neighbors*

(a) *(b)*



Special Treatment of Cadential $\frac{6}{4}$ Chords

9. Unprepared 4ths and Transferred Resolution of the 4th. In four-part vocal style, the dissonant character of the cadential $\frac{6}{4}$ imposes certain restrictions on its use—restrictions we discussed in Unit 11. In principle, these restrictions hold good for instrumental music as well. However, departures from the norms of voice leading and dissonance treatment occur fairly often with cadential $\frac{6}{4}$ chords in instrumental style. Sometimes the 4th—normally a suspension or an

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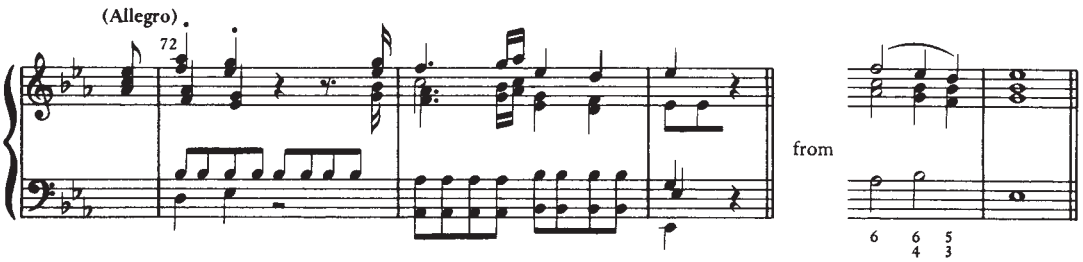
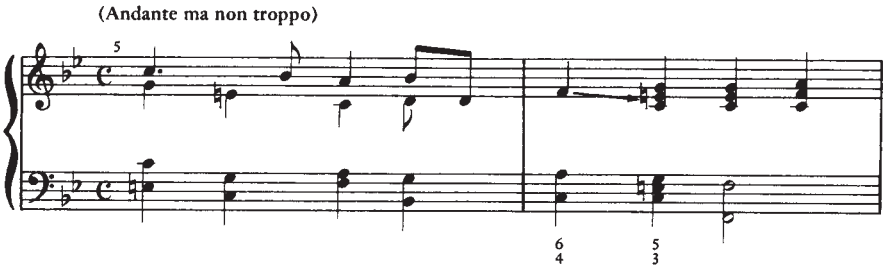
accented passing tone—will enter by leap, as in Example 20-18. Such a leap to the 4th often results from the decoration of a stepwise line; thus, the voice leading is not really as exceptional as it might at first seem. See also Example 11-3c.

20-18 *Mozart, Wind Serenade, K. 388, I*

Sometimes composers will treat the *resolution* of the 4th with a certain freedom. In Example 20-19, the 4th is stated in the soprano and its resolution transferred into the alto (in the same register). This allows the soprano to ascend after the 4th and to express the melodic motion of a 3rd—an important element in this piece. Motion upward from the 4th (the resolution transferred to another voice) occurs quite often in music of the Classical period—especially in Mozart's. Notice that the transferred resolution F-E♮ occurs in the expected register, which enables the dissonant 4th to sound resolved even as the line moves upward.

20-19 *Beethoven, Bagatelle, Op. 119/11*

Example 20-20 shows another type of transferred resolution—into the bass, producing a V^6_5. Such progressions occur rather frequently, though not where a strong V-I cadence (with root-position V immediately before I) is needed.

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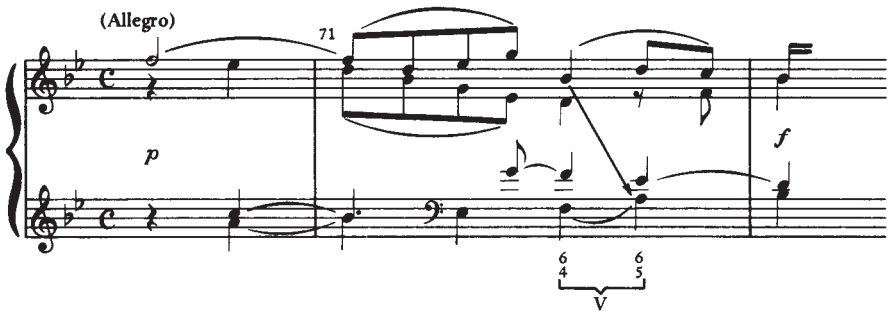
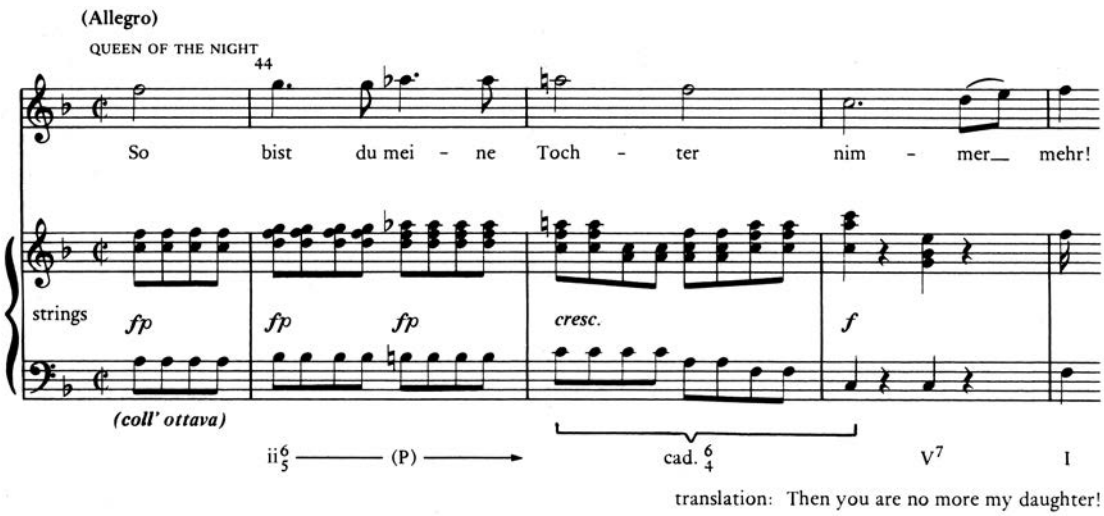
20-20 *Mozart, String Quintet, K. 516, I*



In free textures, composers will sometimes let an inner voice double a 4th that appears in the soprano (Example 20-4, bar 7). One of these 4ths will have to move up; if both resolved down, parallel octaves would result.

10. *Expanding the Cadential $\frac{6}{4}$.* The tension created by the cadential $\frac{6}{4}$ can be enhanced by expanding it. In Example 20-21, a bass arpeggio causes the expansion.

20-21 *Mozart, "Der Hölle Rache"* *(from Die Zauberflöte)*



At the end of Brahms' *Ein Deutsches Requiem* (Example 20-22), a double neighbor prolongs the bass of the $\frac{6}{4}$.

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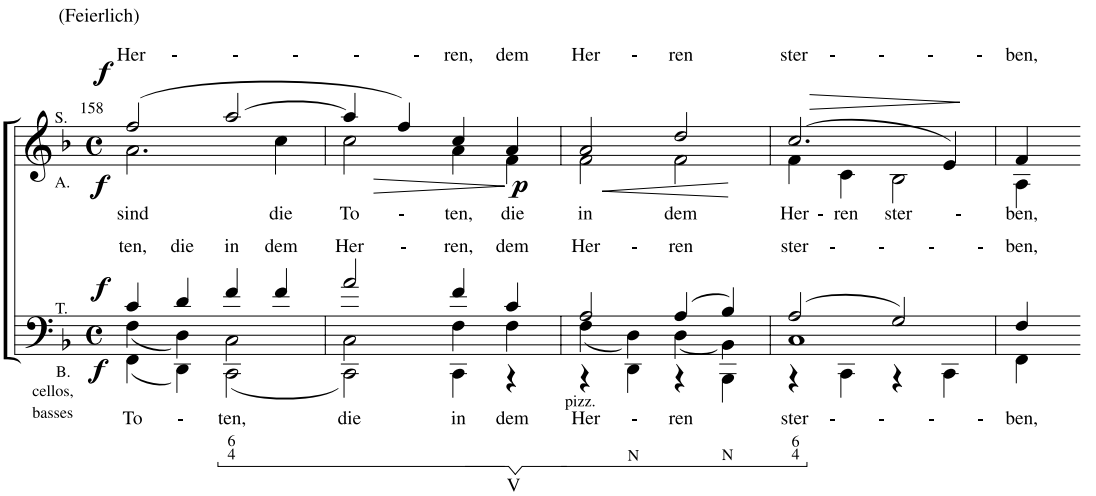
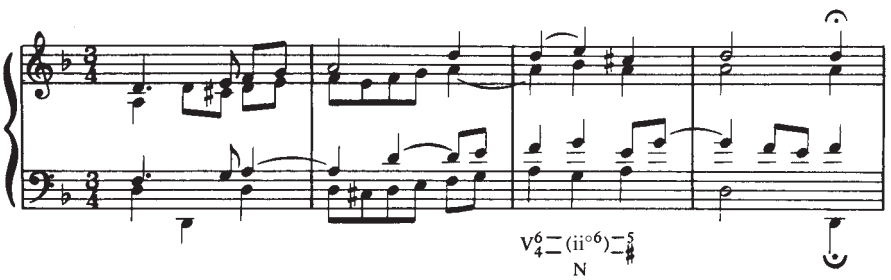
20-22 *Brahms, Ein Deutsches Requiem, Op. 45, VII*


(Feierlich)
Her - - - - - - ren, dem Her - ren ster - - - - - ben,
S.
158
A.
sind die To - ten, die in dem Her - ren ster - ben,
ten, die in dem Her - ren, dem Her - ren ster - - - - - ben,
T.
B.
cellos, basses
pizz.
To - ten, die in dem Her - ren ster - - - - - ben,
6/4
N
N
6/4
V

translation: [Blessed] are the dead, who die in the Lord.

11. *Interpolations Between the $\frac{6}{4}$ and Its Resolution.* Frequently, a neighboring chord separates the $\frac{6}{4}$ from its resolution (Example 20-23). Compare Example 18-20.

20-23 *Bach, Chorale 220*

An expansion of this same principle—interpolating material between a cadential $\frac{6}{4}$ and the dominant to which it resolves—forms the basis for the cadenza in Classical concerto movements. The very word *cadenza*—which simply means "cadence" in Italian—indicates its cadential function. A cadenza from a concerto would be too long to quote here, but the principle is very well illustrated by the miniature cadenza from the first movement of Beethoven's Piano Sonata, Op. 2, No. 3, a sonata movement that is written to sound very much like a concerto (Example 20-24). Like the cadence in the passage from Bach's Chorale, Beethoven's cadenza interpolates a neighboring (ii^6)—this one greatly expanded in the elaborate figuration—between the cadential $\frac{6}{4}$ and its resolution to the dominant.

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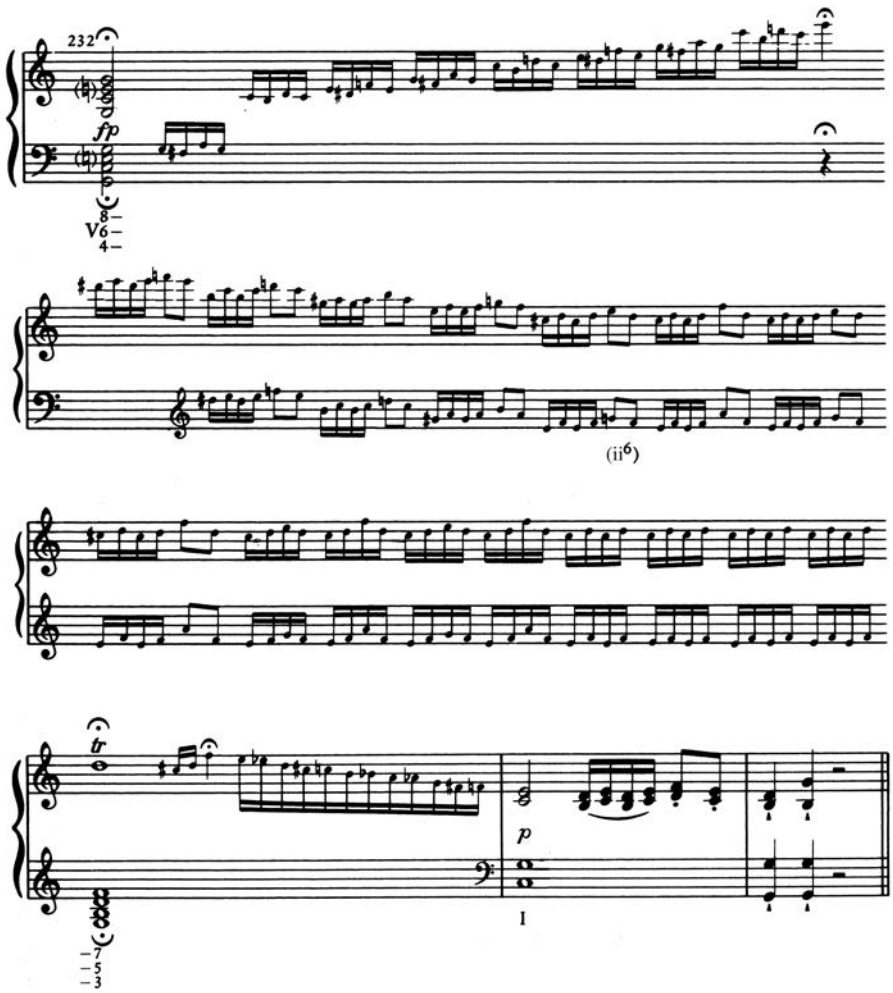
20-24 *Beethoven, Piano Sonata, Op. 2/3, I*

12. *Metrically Weak Cadential $\frac{6}{4}$ Chords.* $\frac{6}{4}$ chords that resolve to cadential dominants are virtually always metrically strong. Occasionally, however, we encounter such $\frac{6}{4}$'s on the weak beat preceding the dominant. Most of these "deviant" $\frac{6}{4}$ chords come about through an anticipation of V in the bass that coincides with a passing tone in one of the upper parts. In such a case, the $\frac{6}{4}$—instead of resulting from a delaying progression in one of the upper voices—results from a bass that arrives at its goal just before the strong beat where it is expected. Example 20-25, from a Schubert lied, illustrates.

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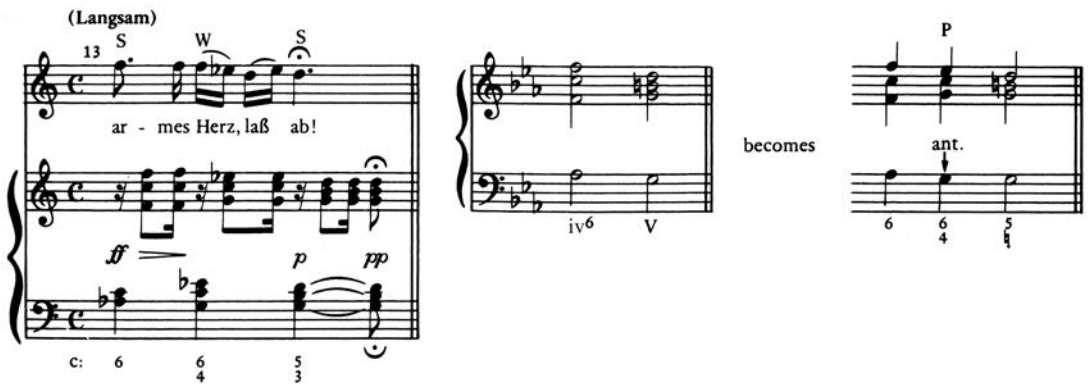
20-25 *Schubert, "Die Liebe hat Gelogen"*

(a) (b) (c)



Of the great composers, Schubert and Chopin probably used these "anticipating" $\frac{6}{4}$'s the most. Review Example 15-9, bars 6–7. There, the metric irregularity results in part from motivic design: the repetition of the rising 4th in the bass, D♯-G♯, G♯-C♯.

Consonant $\frac{6}{4}$ Chords

13. *The Arpeggio $\frac{6}{4}$.* Review Example 20-1 and you will easily see that the first $\frac{6}{4}$ chord (bar 1) has a fundamentally different meaning from any of the dissonant $\frac{6}{4}$'s we have been discussing. The obvious fact that all the voices approach and leave the chord by leap points up this difference in meaning. The bass arpeggiates the tonic triad; the $\frac{6}{4}$ results from the arpeggiation. Because it arises out of and derives from the root position of the triad, this $\frac{6}{4}$ is heard as *consonant.* Consonant $\frac{6}{4}$'s tend to occur in music with considerable rhythmic activity and where at least some of the chords persist for a long time. Thus, such $\frac{6}{4}$'s occur infrequently in chorale style, where chords change on almost every beat. Most consonant $\frac{6}{4}$'s are tonics, for the I is the chord most often expanded by arpeggiation. The bass tone is frequently doubled; however, doubling the root or (less often) the 3rd is also possible.

14. *The Consonant $\frac{6\text{-}5}{4\text{-}3}$.* Most often the arpeggio $\frac{6}{4}$ appears after the $\frac{5}{3}$ chord that makes it consonant. However, in the music of some composers (Brahms in particular), the $\frac{6}{4}$ will sometimes appear first; it is then stabilized "retrospectively" by a $\frac{5}{3}$ that follows it (Example 20-26). In such cases, the $\frac{6}{4}$ can represent the upper voices of a $\frac{5}{3}$ chord whose bass is delayed.

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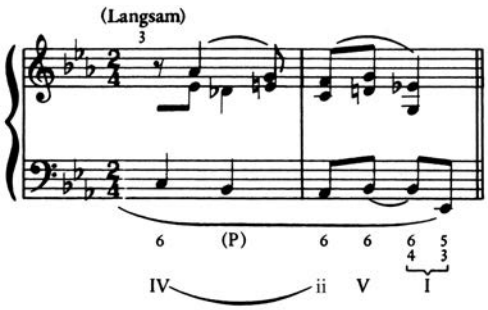
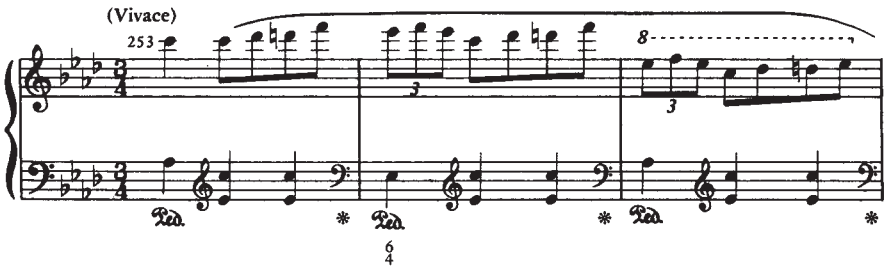
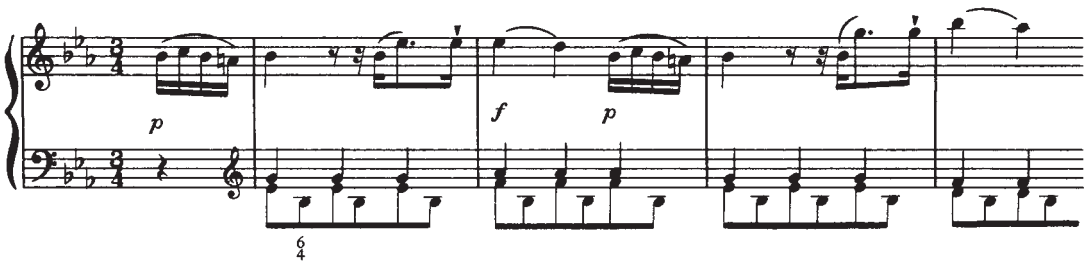
20-26 *Schumann, Albumblätter, Op. 99, V*



15. *The Oscillating $\frac{6}{4}$ (Waltz or March Type).* In Examples 20-1 and 20-26, the consonant $\frac{6}{4}$'s appear *above* the bass of the governing $\frac{5}{3}$ chords; in context, therefore, the bass of the $\frac{6}{4}$ functions as an inner-voice tone of the $\frac{5}{3}$. But sometimes the bass of the $\frac{6}{4}$ appears *below* that of the $\frac{5}{3}$. This is particularly frequent in instrumental accompaniment patterns, such as those in waltzes or marches, where the bass of I oscillates between $\hat{1}$ and the $\hat{5}$ below it. The $\frac{6}{4}$'s appear on weak beats; if, as in waltzes, the bass normally moves in whole bars, the $\frac{6}{4}$'s will appear on the relatively weaker bars. The descending motion from $\hat{1}$ to $\hat{5}$ emphasizes the strong–weak metric pattern—hence the popularity of this idiom for dances and marches. The repeated $\hat{5}$'s seldom form part of the main bass line; they extend the governing chord and provide a characteristic rhythmic pattern. The $\frac{6}{4}$ chords they produce are heard as consonant and dependent on the preceding $\frac{5}{3}$'s. Examples 20-27a and b illustrate.

20-27

(a) Chopin, Valse, Op. 34/1

(b) Mozart, Piano Sonata, K. 282, II (Menuetto)



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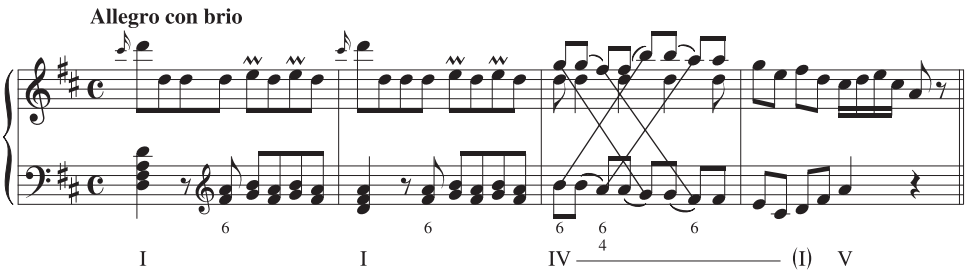
Some Special Cases

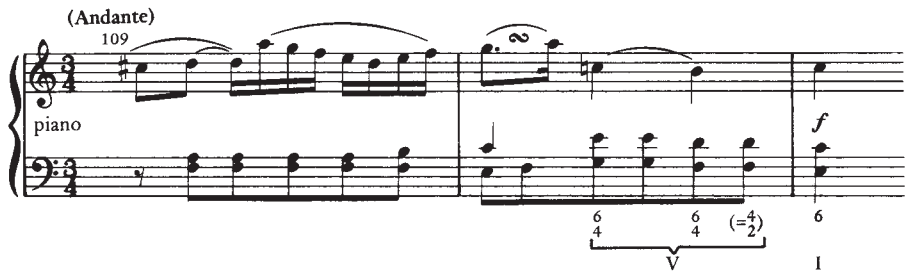
16. $\frac{6}{4}$ Chords by Voice Exchange. $\frac{6}{4}$ chords often result from a kind of double voice exchange in which a pair of two-note figures ($\hat{4}$-$\hat{3}$ and $\hat{6}$-$\hat{5}$) are interchanged. This voice exchange usually occurs within an extended subdominant, as in Example 20-28, where the IV moves to an apparent tonic before leading to the cadential V. Here, the $\frac{6}{4}$ and $\frac{6}{3}$ have passing functions within the extended IV. Note also the neighboring $\frac{6}{3}$'s (*not* ii^6) that decorate and prolong tonic harmony in bars 1–2.

20-28 *Haydn, Sonata in D, Hob. 16/37*



17. $\frac{6}{4}$ Chords with Augmented 4th (vii$^{o}\frac{6}{4}$). Sometimes one encounters a $\frac{6}{4}$ chord with an augmented 4th, built on $\hat{4}$ as bass tone. (In major, the augmented 4th lies between $\hat{4}$ and $\hat{7}$; in minor, between $\hat{4}$ and raised $\hat{7}$.) A literal analysis of these chords as (vii$^{o}\frac{6}{4}$) would be correct as far as it goes but not particularly revealing of their function. As Example 20-29 indicates, these $\frac{6}{4}$'s function as incomplete V$\frac{4}{2}$ chords; they normally occur only in three-part texture, which explains their incomplete state. In music with a figured-bass accompaniment (Baroque trio sonatas, for example), the continuo player would most probably complete the $\frac{4}{2}$ chord.

20-29 *Mozart, Piano Concerto, K. 453, II*



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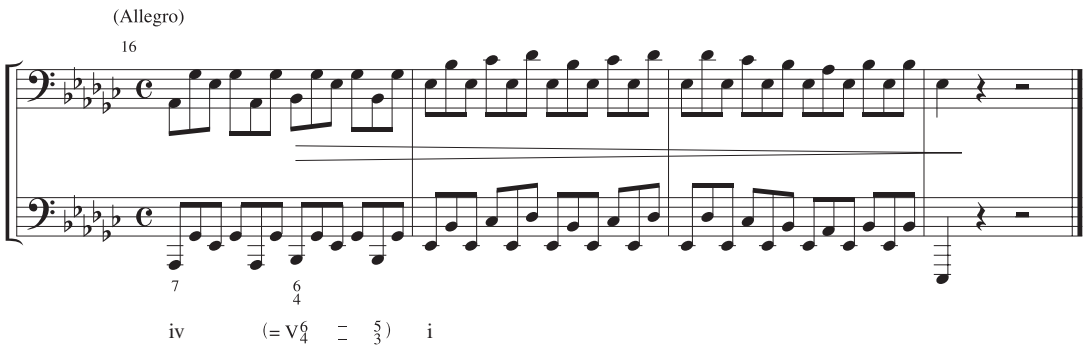
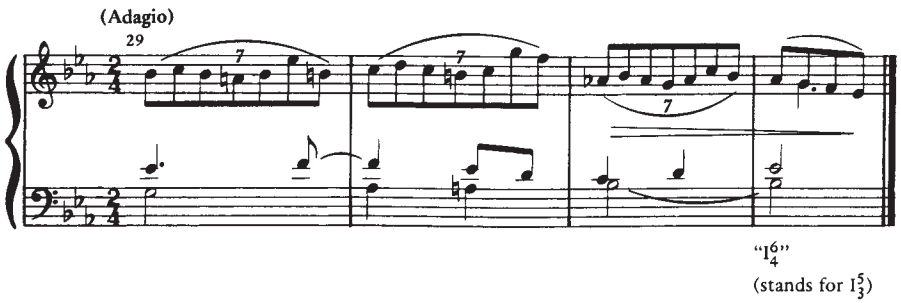
18. *Dissonant or Consonant: V or I?* The two excerpts quoted in Example 20-30 illustrate how much the meaning of a $\frac{6}{4}$ chord depends on context. In the Chopin, the E♭ minor $\frac{6}{4}$ "ought to" resolve to a V (the excerpt shows the final cadence of the piece). Most exceptionally, the V chord does not appear—an instance of harmonic elision. But the bass progression suggests iv-V-i so unmistakably that the cadential function of this $\frac{6}{4}$ can hardly be questioned; it stands for the embellishment of a V that is not literally present but that is nonetheless strongly implied.

In the Schumann excerpt, an E♭-major $\frac{6}{4}$ appears *after* the cadential V; it is, in fact, the last chord in the piece. This $\frac{6}{4}$ stands for I, not for V. In order to avoid a definite conclusion that would be out of keeping with the dreamy nature of Eusebius (a character Schumann invented who represented the poetic, gentle side of his personality), Schumann lets the inconclusive I^6_4 substitute for a final I. This consonant $\frac{6}{4}$—unlike those discussed in Sections 14 and 15—is stabilized not by its own root position but by the harmonic implications of the context in which it occurs.

20-30

(a) Chopin, Prelude, Op. 28/14



(b) Schumann, "Eusebius" *(from Carnaval, Op. 9)*

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POINTS FOR REVIEW

1. $\frac{6}{4}$ chords are sometimes dissonant and sometimes consonant.
2. The main types of dissonant $\frac{6}{4}$ chords are accented ($\frac{6\text{-}5}{4\text{-}3}$), neighboring, and passing.
3. Accented $\frac{6}{4}$ chords include the familiar cadential type ($V^{\frac{6\text{-}5}{4\text{-}3}}$). On other scale degrees, accented $\frac{6}{4}$'s resemble the cadential type (same doubling, same metric position, same descending resolution). They are particularly frequent on $\hat{6}$ in major. On $\hat{7}$, the accented $\frac{6}{4}$ will normally resolve into a V^6_5 chord.
4. Neighboring $\frac{6}{4}$ chords (usually unaccented) result from the progression $\frac{5\text{-}6\text{-}5}{3\text{-}4\text{-}3}$ above a stationary bass. The bass is usually doubled.
5. Passing $\frac{6}{4}$ chords (above a moving bass) typically connect $\frac{5}{3}$ and $\frac{6}{3}$ positions of the same triad, often with a voice exchange between the bass and an upper voice. The most frequent progression is (P^6_4) connecting I and I^6, in which (P^6_4) resembles vii^{o6} and V^4_3.
6. Other passing $\frac{6}{4}$'s connect two positions of a seventh chord or connect a triad with a seventh chord. *Important usage:* $\frac{6}{4}$ passing between IV^6 and ii^6_5, with the outer voices moving in parallel 6ths (in both modes).
7. Passing $\frac{6}{4}$ chords (above a sustained bass) sometimes result from passing tones moving up from the 5th and 3rd of a $\frac{5}{3}$ chord. Another type is the $\frac{6}{4}$ that connects V^7 and V^5_3.
8. Possibilities above a sustained dominant bass include the progression $\frac{8\text{-}7\text{-}6\text{-}5}{6\text{-}5\text{-}4\text{-}3}$ and the double voice exchange $\hat{4}$-$\hat{3}$, $\hat{7}$-$\hat{8}$.
9. The cadential $\frac{6}{4}$ is often treated irregularly in instrumental style. (See Sections 9 to 12.)
10. Consonant $\frac{6}{4}$ chords include the arpeggio type, which results from a complete or incomplete arpeggio in the bass. This chord usually prolongs tonic harmony, with I^5_3 preceding I^6_4. Another consonant $\frac{6}{4}$ is the oscillating (waltz or march) type.
11. $\frac{6}{4}$ chords produced by double voice exchange ($\hat{4}$-$\hat{3}$, $\hat{6}$-$\hat{5}$) often help to expand IV.
12. $\frac{6}{4}$ chords with an augmented 4th on $\hat{7}$ in major or raised $\hat{7}$ in minor can represent V^4_2 in three-voice texture.

EXERCISES

Note. From now on, be prepared to explain the function of every $\frac{6}{4}$ chord you use. In setting melodies, never use a $\frac{6}{4}$ chord unless you have a clear idea of how it functions; sprinkling an exercise with $\frac{6}{4}$'s unrelated to their surroundings is one of the surest ways to botch your work.

1. Preliminaries. Using a different key for each progression, write an example of each of the following $\frac{6}{4}$ usages:
   a. $\frac{6\text{-}5}{4\text{-}3}$ on $\hat{6}$ in major
   b. $\frac{6\text{-}6}{6\text{-}5}{}_{4\text{-}3}$ in minor (which bass scale degree is appropriate?)
   c. Passing $\frac{6}{4}$ (bass moves) between I^6 and I in major
   d. Passing $\frac{6}{4}$ (bass moves) between $ii^{ø}\frac{6}{5}$ and $ii^{ø7}$ in minor
   e. Passing $\frac{6}{4}$ (bass moves) between IV^6 and ii^6_5 in major
   f. Neighboring $\frac{6}{4}$ (upper voices move) in minor

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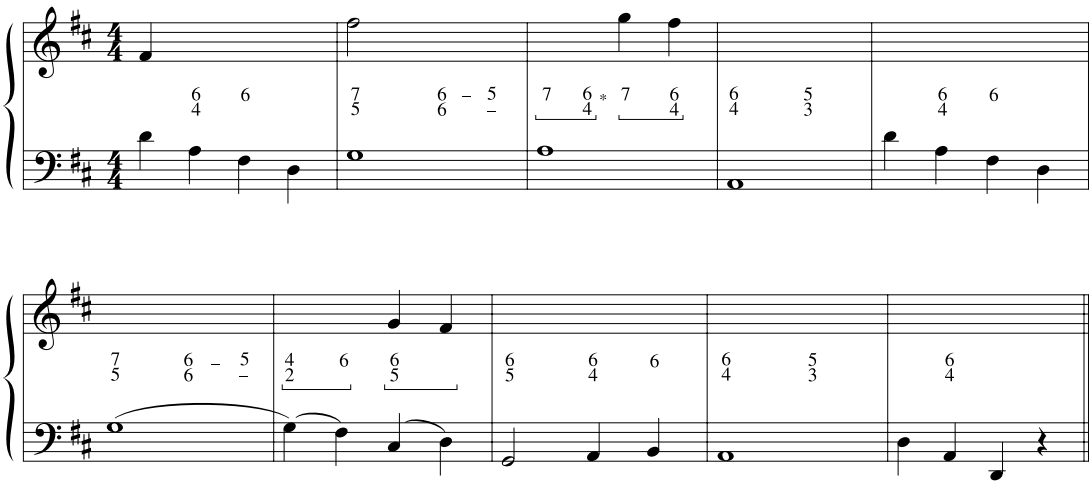
g. Passing $\frac{6}{4}$ (upper voices move) in major

h. $\frac{6}{4}$ arising out of bass arpeggiation in minor

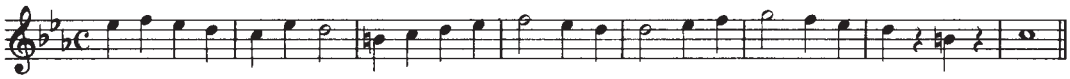
i. $\frac{6}{4}$ resulting from voice exchange ($\hat{6}$-$\hat{5}$ and $\hat{4}$-$\hat{3}$)

j. $\frac{6}{4}$'s resulting from voice exchange over V in bass

2. Figured bass.



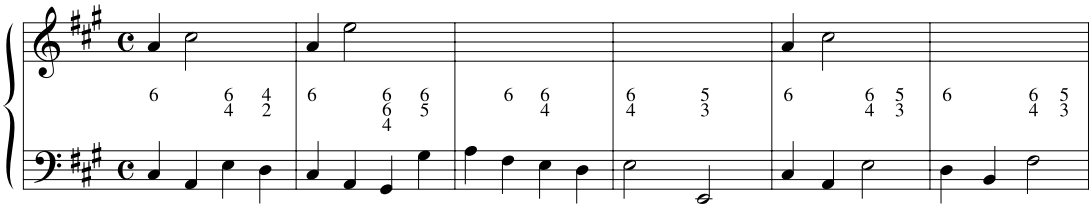
* voice exchange between soprano and tenor

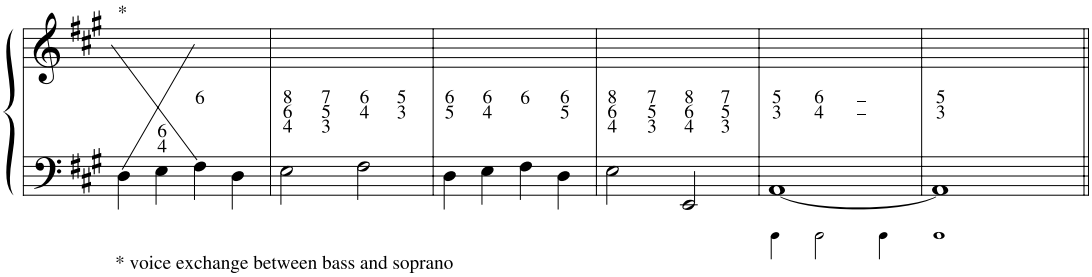
3. Melody. Use one neighboring $\frac{6}{4}$ and at least two passing $\frac{6}{4}$'s—one between iv^6 and ii$^{ø}\frac{6}{5}$.

MINDTAP

Guided Exercises

This exercise's step-by-step audiovisual solution is available on MindTap.

4. Figured bass. (Keyboard style is possible.)





* voice exchange between bass and soprano

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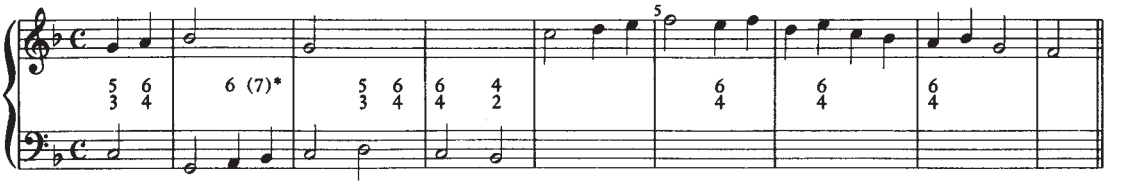
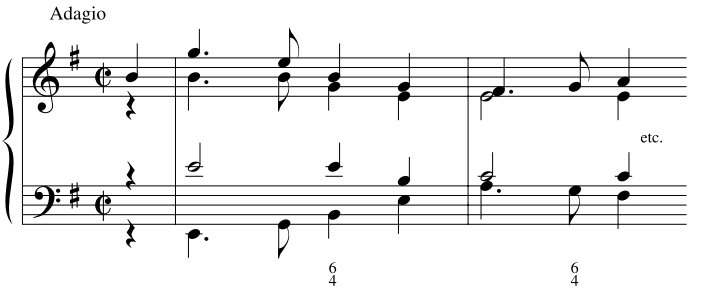
5. Melody and bass.

6. Phrase writing (think of it for string quartet). Continue the beginning given below, using consonant and dissonant $\frac{6}{4}$ chords of various kinds. A possible plan might be to begin the second phrase like the first but to lead it to a cadence in III (G major).



*If you harmonize this B♭ as a seventh chord, you will need two quarter notes in the tenor in the first half of bar 2 to avoid 5ths. Or you can treat the B♭ as a passing tone and not harmonize it.

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PART IV

Elements of Figuration

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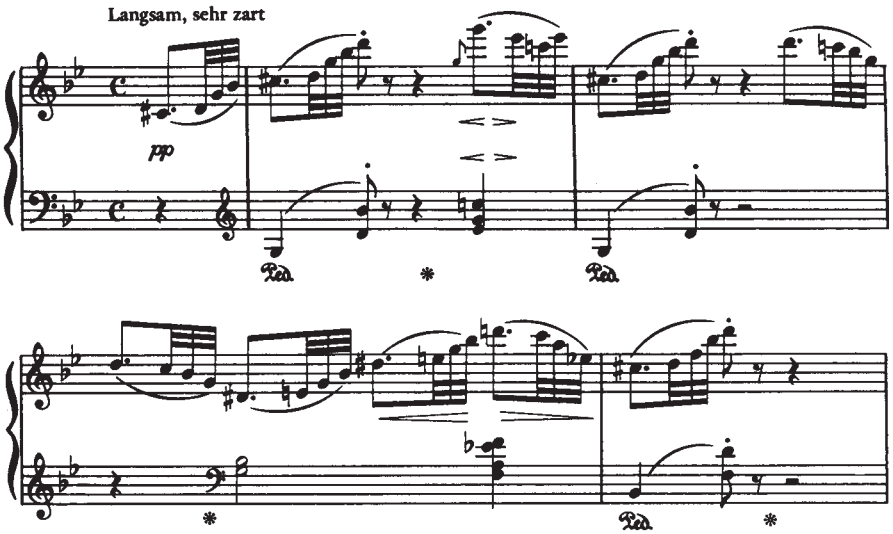
UNIT

21 Melodic Figuration

21-1 *Schumann, Vogel als Prophet, Op. 82/6*

(a)



MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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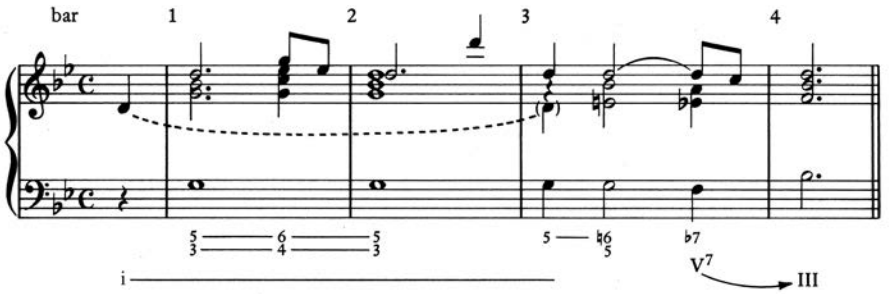
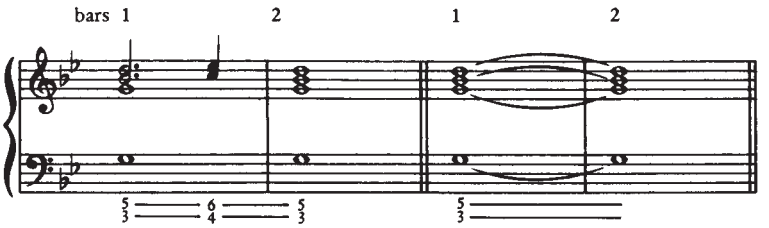
(b) reduction



(c) *(d)*



1. *Figuration.* A most striking aspect of Example 21-1 is Schumann's very expressive use of dissonant tones foreign to the chords against which they sound. These emphasized dissonances, together with the melody's wide range and rhythmic freedom (melodic ideas beginning before the bass and harmony), create something akin to the sound of a wild bird's song. The three successive reductions (b, c, and d) help clarify the meaning of this passage—in particular the meaning of the dissonant tones. The first reduction (21-1b) shows the melodic, rhythmic, and chordal framework of the passage. The reduction seems almost surprisingly simple compared with the actual music, and although it reveals the tonal connections that unify the phrase, the reduction also removes much of the music's individual flavor.

The term "figuration" refers to a melodic progression that animates a linear-harmonic substructure by means of quicker motion or rhythmic displacement. Figuration can occur in any voice, not just the soprano; it can occur in more than one voice at the same time. In Example 21-1a, the elements or tones of figuration are the accented dissonances and quick arpeggiations that fill out the framework shown in the first reduction. The word "figuration" and the adjective form "figurated" are very old musical terms. Their derivation—from Latin *figurare,* to shape, to form—suggests the great importance of figuration as a constructive force in musical composition. The elements of figuration are part of the essential substance of music; though they are, in a sense, ornamental, they are by no means merely a decorative overlay. It would make as much sense to think of leaves and flowers as mere decorations on a tree.

Furthermore, whether or not we view a tone or group of tones as figuration depends on the perspective from which we perceive the music. Thus, the first two bars of the Schumann phrase can be further reduced by eliminating the octave leaps and the melodic third G-E♭ (Example 21-1c). Even in this further reduction, however, the $\frac{6}{4}$ chord of bar l—which results from neighboring tones—can be regarded

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as the product of figuration at a deeper level. This would leave us with the G-minor tonic chord as the ultimate reduction of the two bars (Example 21-1d).

In Unit 5, we studied various tones of figuration in the abstract context of strict counterpoint and examined briefly how they work in relation to chords in freer textures; in subsequent units, we have seen how chords based on neighbor and passing tones work within harmonic expansions. In this unit and the next, we examine "surface" figurations—those of small dimensions that do not produce a change of chord—in greater detail. Figuration varies according to medium, style, and composer—even according to the character of an individual piece—far more than do the chord usages of previous units. Nevertheless, the elements of figuration can be classified into five fundamental types and their variants:

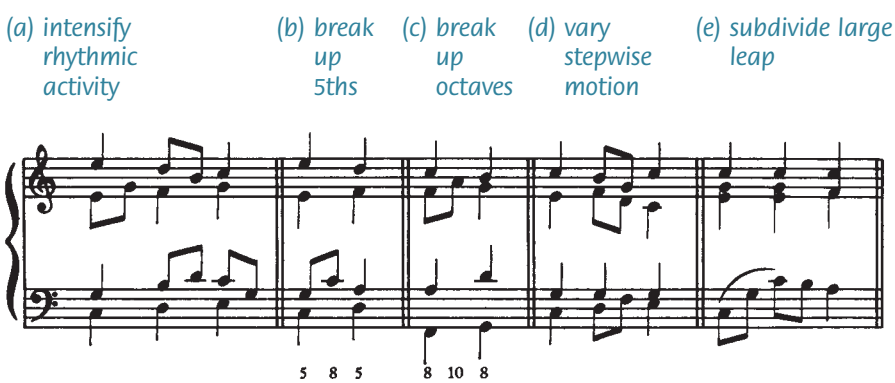
1. The chordal skip or arpeggio (second species).
2. The passing tone (second species).
3. The neighboring tone (third species).
4. The suspension (fourth species).
5. The anticipation (fifth species, decoration of suspension).

We discuss each of these in turn, reserving the suspension and anticipation for Unit 22.

Chordal Skips (Arpeggios)

2. Uses of the Chordal Skip. The terms *chordal skip* and *arpeggio* are interchangeable, although "arpeggio" tends to refer to an extended broken chord rather than to a single skip. Rapid arpeggios, as in the Schumann excerpt, are characteristic of instrumental writing; they often connect contrasting registers in a widely ranging melody. In chorale settings and in simple figured basses, arpeggiated motions tend to occur as single skips, often in a rhythm of two notes to a beat. Example 21-2 shows how they can help intensify rhythmic activity (a) and break up parallel 5ths and octaves (b and c). In addition, arpeggiated motions can improve melodic lines by varying a prevailing stepwise movement (d), by subdividing a large leap into smaller ones (e), or by introducing stepwise motion, especially in the bass (f).

21-2 *chordal skip functions*



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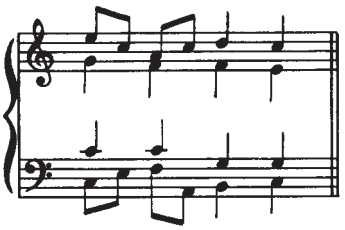
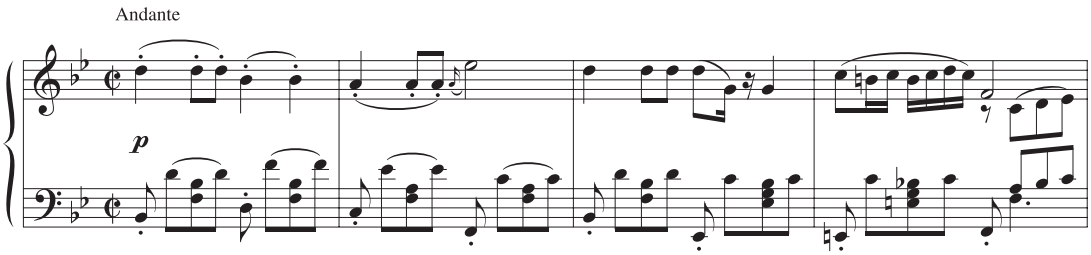
(f) introduce stepwise motion

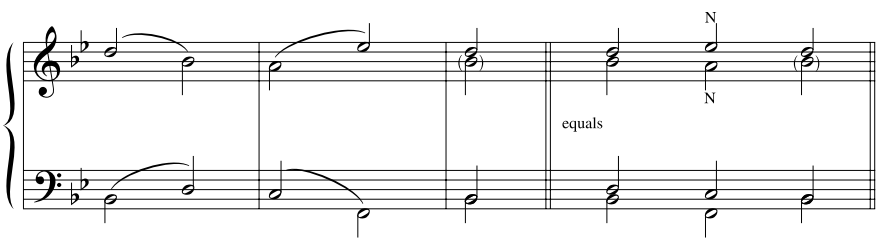


3. ***Polyphonic Melody.*** Arpeggiation—moving from one to another tone of a chord—makes possible one of the basic resources of tonal melody: its ability to suggest two (or more) lines moving simultaneously (review Example 19-2). Example 21-3 provides an additional illustration. The "polyphonic" effect results from the fact that we hear important connections not just from one tone to the next but also among tones that are not immediately consecutive. Thus, the D in bar 1 of the melody is heard as moving to the E♭ of bar 2, an upper neighbor that returns to D in bar 3. And the B♭ of bar 1 moves to the A of bar 2, a lower neighbor that, in principle, returns to B♭. However, it is not always desirable (or even possible) for a composer to incorporate into a melody every tone of the implied polyphony. The B♭ to which the A should move is clearly implied by the context; therefore, Schubert can leave it out of the melodic line without creating a loose end (Example 21-3b).

Polyphonically conceived melodies usually occur in the soprano. However, other parts, especially the bass, can also reveal polyphonic implications, as in bars 1 and 2 of Example 21-3a.

21-3 *Schubert, Impromptu, D. 935, Op. 142/3*

(a)

(b) reduction of bars 1–3



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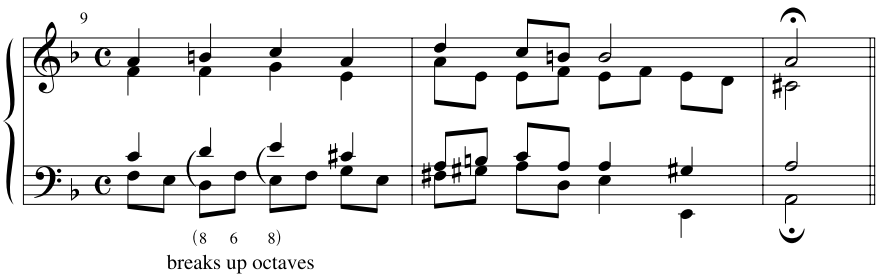
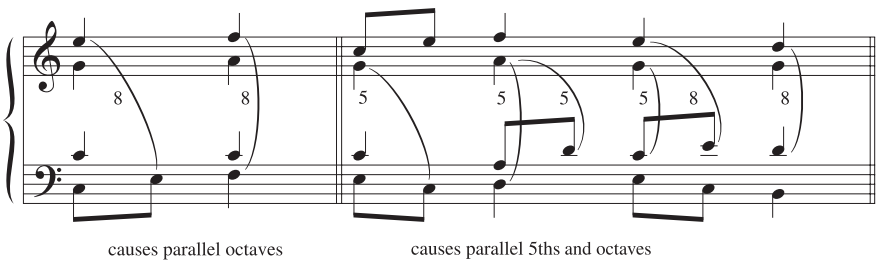
4. *Chordal Skips and Forbidden Parallels.* Unless they are of very brief duration, chordal skips are effective in breaking up forbidden parallels (as in Examples 21-2b and c). The pacing of the figuration, of course, will have to conform to the prevailing rhythmic structure. In his chorale settings, where eighth-note figuration is the norm, Bach often uses a chordal skip in eighth-note rhythm to break up parallels (Example 21-4).

21-4 *Bach, Chorale 96*

The very stability that allows chord members to break up parallels imposes on them the obligation not to cause any. In most situations, 5ths and octaves created by chordal skips count as faulty voice leading and must be avoided. Never write chordal skips without checking for forbidden parallels (Example 21-5).

21-5 *chordal skips and parallels*



In more extended arpeggios, especially in quick note values, not every tone is necessarily part of the basic voice leading. In such situations, what might look like parallels will not necessarily sound like them, particularly if the tones in question are in a weak rhythmic position. The Bach Chorale Prelude excerpt of Example 21-6 illustrates.

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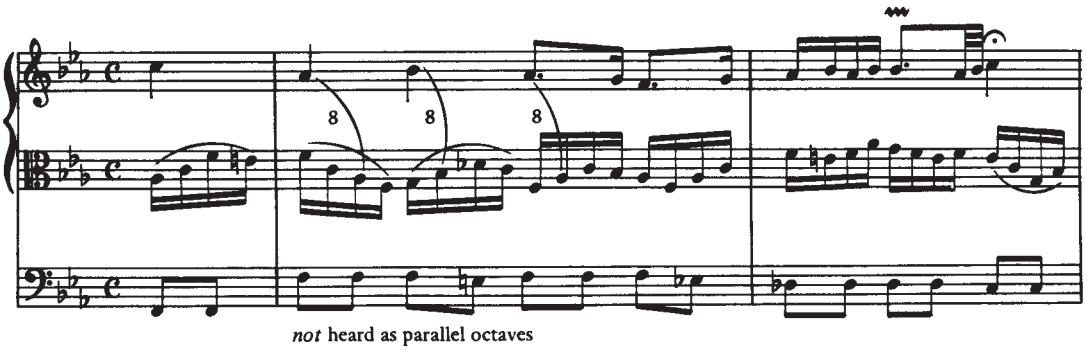
21-6 *Bach, "Ich ruf zu dir," BWV 639* *(from Orgelbüchlein)*

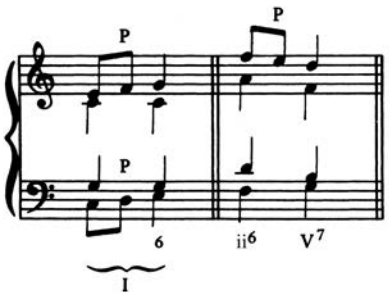


Passing and Neighboring Tones

5. *Uses of the Passing Tone.* As discussed in Unit 5, the passing tone generally fills in the interval of a 3rd (Example 21-7) either within one chord (a) or from one chord to another (b).

21-7 *passing tone fills in 3rd*

(a) *(b)*



Passing tones are usually dissonant, although a 5-6 or 6-5 progression can produce a consonant passing tone. The basic function of the passing tone is a transitional one—to lead from one stable tone to another. In keeping with this transitional character, passing tones normally occur on unaccented beats or parts of the beat. Accented passing tones (Section 8) occur frequently, but the very fact that we have to refer to them as "accented" reveals their special nature. Nobody has to call a normal passing tone "unaccented"; it is taken for granted that it is rhythmically weak.

Passing tones are often optional. That is, whether or not to use them depends on the character and design of the place in question. In a few situations, however, passing tones are virtually obligatory in that melodic continuity depends on them. Example 21-8 shows a frequent melodic and harmonic pattern: a descending line from $\hat{5}$ to $\hat{1}$ in the soprano supported by I-IV-V-I. The passing

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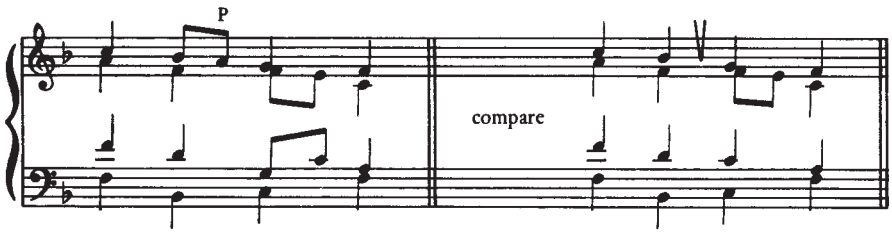
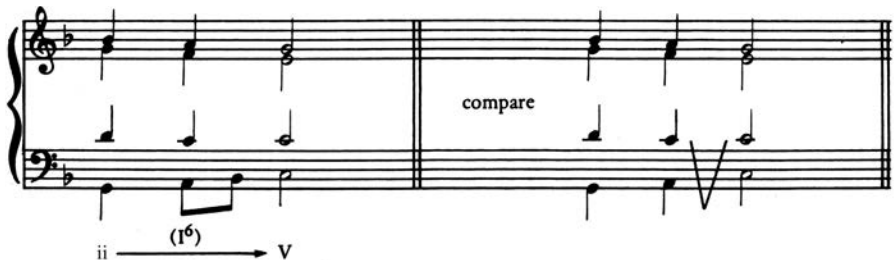
tone A (over IV) is normally required to secure a stepwise motion to the goal tone, F. (On the other hand, if the last tone in the soprano were changed to A, the passing tone would be optional. Why?)

21-8 *passing tone in soprano improves continuity*



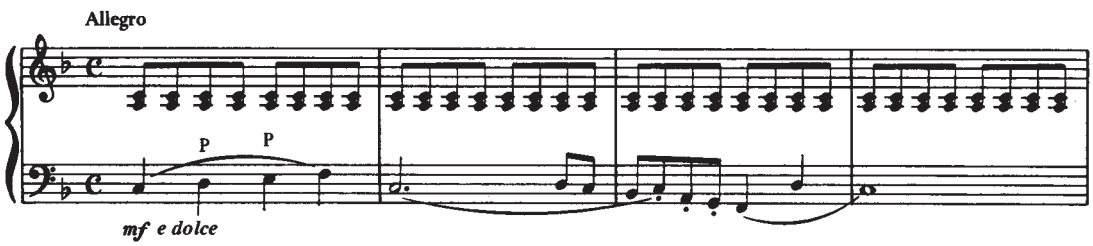
Example 21-9 shows another frequent progression, in which (I^6) functions as a passing chord between ii and V; a bass passing tone would usually follow (I^6).

21-9 *passing tone in bass improves continuity*



Two consecutive passing tones can fill in a 4th (Example 21-10); an extended passing motion can fill in a still larger interval, in which case one or more tones will belong to the prevailing chord.

21-10 *two passing tones fill in 4th*

Beethoven, String Quartet, Op. 59/1, I

6. *Uses of the Neighboring Tone.* Unlike the passing tone, which connects two different tones, the neighbor decorates a stationary tone. Just like the passing tone, however, the neighboring tone can be unaccented (the norm) or

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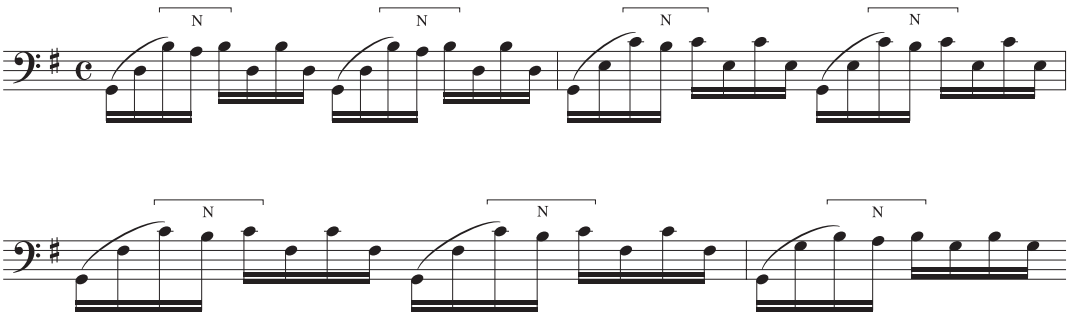
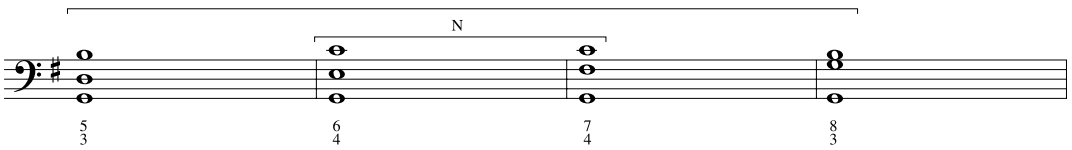
accented, dissonant (the norm) or consonant. The neighbor-note figure (main note, neighbor, main note) is often treated motivically. In Example 21-11a, it is part of the 16th-note figuration; the reduction (b) shows an enlargement of an upper neighbor-note figure spanning four bars.

21-11 *Bach, Suite 1 for Cello, BWV 1007, Prelude*

(a)

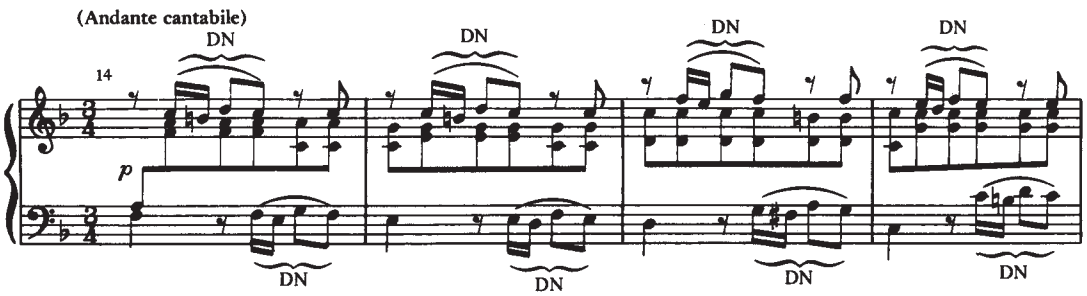


(b) reduction



Various combinations of upper and lower neighbors—including the familiar double neighbor—form idiomatic figures in many styles, though they are not characteristic of chorale style. (Review Unit 1, Section 11, and Unit 5, Section 7.) Example 21-12 shows the double-neighbor figure in a rather unusual rhythm, emphasizing the upper neighbors.

21-12 *Mozart, String Quartet, K. 465, II*



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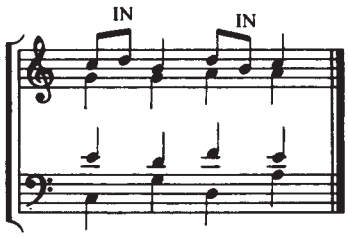
7. *The Incomplete Neighbor.* This figure, as we know, has only one stepwise connection with the main tone whereas the regular neighbor has two. Incomplete neighbors decorate either the preceding or the following tone. Of the two possibilities (both are illustrated in Example 21-13a), the first occurs more frequently. Sometimes called the "escape tone" or "échappée," this type of figuration is often an upper incomplete neighbor that decorates the initial tone of a descending second. It can also occur in the reverse direction as in the excerpt from Franck (21-13b).

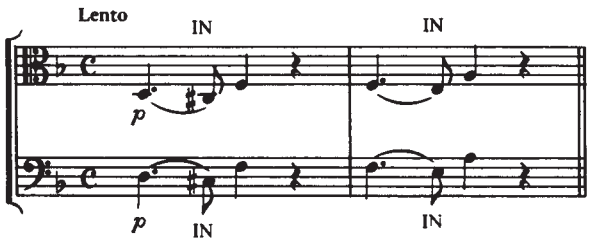
Example 21-13c illustrates the double incomplete neighbor; the main tone is preceded by both neighbors. Example 21-13d shows figuration on two levels—the E♭ is an incomplete neighbor that decorates D♭, itself a neighbor of C.

21-13 *incomplete neighbors*

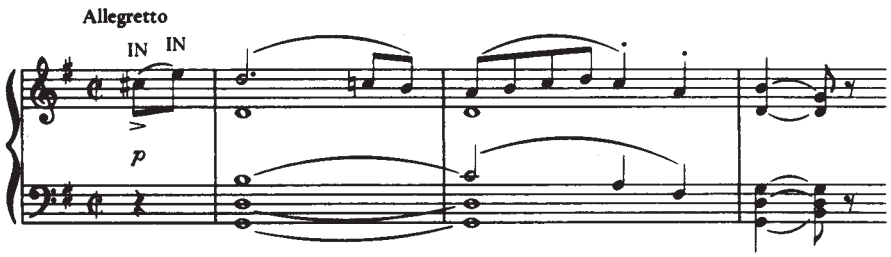
(a)



(b) Franck, Symphony in D minor, I



(c) Schubert, Piano Sonata, D. 894, IV



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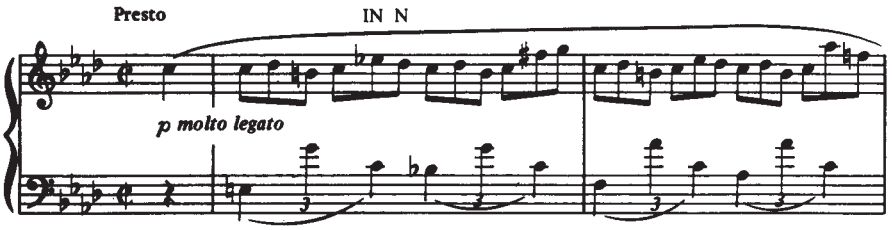
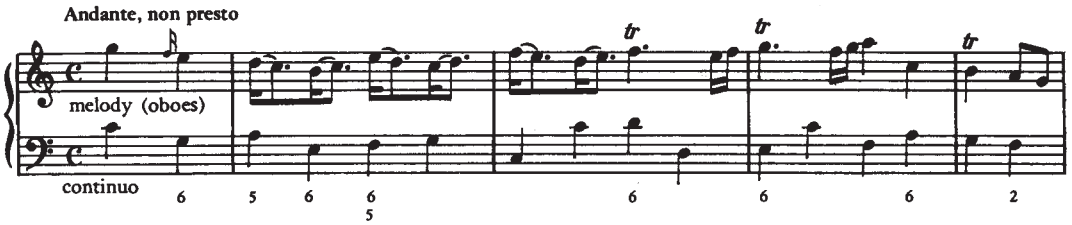
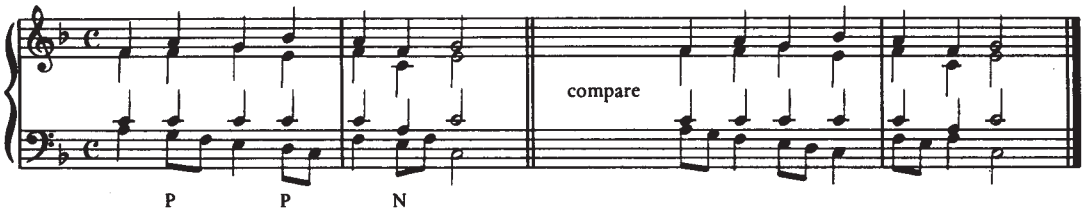
(d) Chopin, Etude, Op. 25/2

Especially when they are dissonant, incomplete neighbors attract a certain amount of attention; a dissonance is emphasized when it is preceded or followed by a leap. Therefore, incomplete neighbors occur more often in the soprano than in the other, less prominent voices.

8. *Accented Passing and Neighboring Tones.* Example 21-14 contains passing tones, neighbors, and incomplete neighbors on the strong part of the beat. As Example 21-15 indicates, accented passing and neighboring tones can be regarded as displacements of the normal, unaccented kind.

21-14 *Handel, "Alexander's Feast" Concerto, IV*



21-15 *accented P and N as displacements*



9. *Complementary Rhythms.* Independence of parts and rhythmic variety can benefit from the use of accented and unaccented tones of figuration in different voices; rhythms in different voices that combine into a continuous movement are termed *complementary*. Such rhythms occur in Example 21-16.

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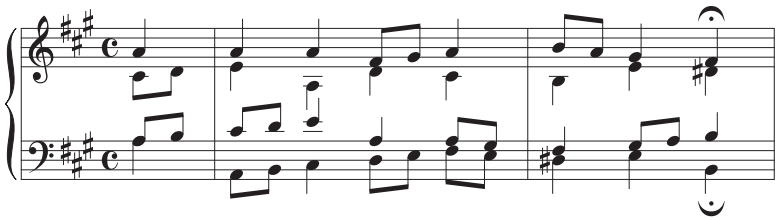
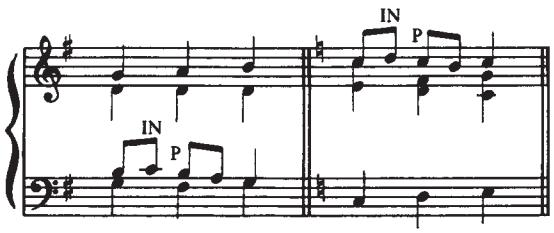
Note at the beginning the passing motions in parallel 3rds between the tenor and the alto and the parallel 10ths in the first measure between the bass and the tenor (beats 1–2). These create an excellent effect—as do parallel 6ths used similarly—as long as they are not overdone.

21-16 *Bach, Chorale, "Ach Gott, wie manches Herzeleid"*



An important idiom consists of an incomplete neighbor (escape tone) followed by an accented passing tone, the two tones forming the decoration of a melodic progression of a second, usually a descending one (Example 21-17; review also the associated technique involving $\frac{6}{4}$ chords in Unit 20, Section 8).

21-17 *IN followed by an accented passing tone*

(a) *(b)*

10. *Accented Tones and Harmonization.* The presence of accented passing and neighboring tones can complicate the setting of melodies and unfigured basses. To harmonize a tune like the one in Example 21-14, we must be able to recognize that the chord tones do not fall on the beat; to do that, we must perceive the large-scale organization of the melody—in particular, the rising line C-D-E-F-G that starts with the first downbeat. Example 21-18 shows a melodic fragment followed by a correct and an incorrect interpretation. In the latter, the 7th of V^7 does not resolve. Another clue is the leap a^1-f^2 toward the end of the first measure. In many cases, however, trial and error—and above all, using your ear—is the only way to arrive at a correct solution.

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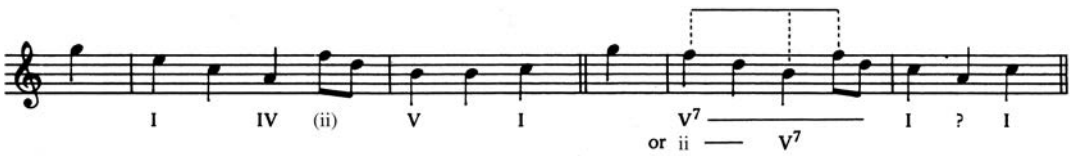
21-18 *harmonizing figurated melody*

(a)

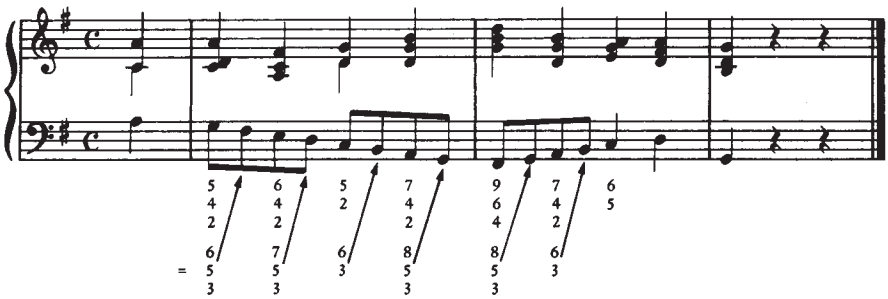
(b) correct interpretation

(c) incorrect interpretation

11. *Accented Tones and Figured Basses.* In figured basses, accented passing and neighboring tones are often—though not always—figured. To interpret the numbers (they are very confusing at first), consider that they represent elaborations of chords you already know; the following is a review of the seven standard figured-bass symbols (the numbers in parentheses represent intervals generally understood but not always indicated):

Triads: $\begin{matrix}(8)&(8)&(8)\\5&6&6\\3&3&4\end{matrix}$

Seventh chords: $\begin{matrix}7&6&(6)&(6)\\5&5&4&4\\3&(3)&3&2\end{matrix}$ or 2

Accented passing and neighboring tones in the bass can produce unusual combinations of numbers; add 1 to each of them if the next bass tone is a step lower and subtract 1 if it is a step higher. If your arithmetic is correct, the result will indicate the proper chord above the following chord tone. Example 21-19 illustrates this.

21-19 *figured bass with accented dissonances*

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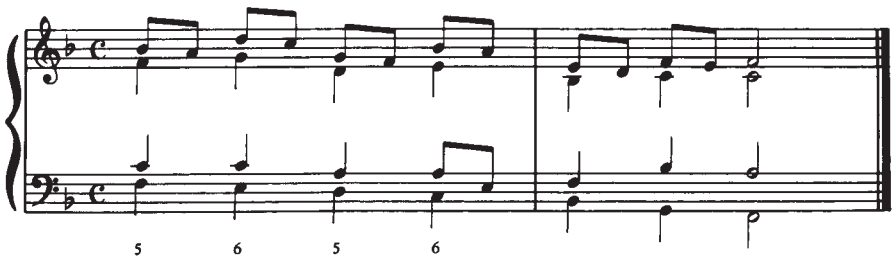
12. *Accented Incomplete Neighbors; "Appoggiaturas."* Accented incomplete neighbors are metrically strong nonchord tones that are approached by leap and resolved by step; the resolution is almost always *down* unless the accented neighbor happens to be a leading tone. Example 21-20 shows a familiar sequence pattern decorated with accented incomplete neighbors. This type of figuration occurs frequently, but not in chorale style.

21-20 *appoggiaturas*



Accented dissonances of various types are often called *appoggiaturas* (Italian *appoggiare,* to lean). This term originated in the field of performance, not theory; its primary use is to indicate a one-note ornamental prefix, usually accented, that occurs with great frequency in Baroque and Classical music. As a theoretical term, "appoggiatura" is most usefully employed as a substitute for the more cumbersome "accented incomplete neighbor"; compare this figure to the escape tone (Section 7), another form of an incomplete neighbor.

13. *The Turn.* Another familiar ornament—the turn—combines an accented and an unaccented neighbor. As an embellishment, the turn is often indicated by a conventional sign (∾), but similar patterns often occur in regular notation, as in the Bach fugue subject in Example 21-21a. In nineteenth-century music, the turn often becomes a five-note ornament consisting of main tone, upper neighbor, main tone, lower neighbor, and main tone, as shown in Example 21-21b.

21-21

(a) Bach, Well-Tempered Clavier II, Fugue 10, BWV 879

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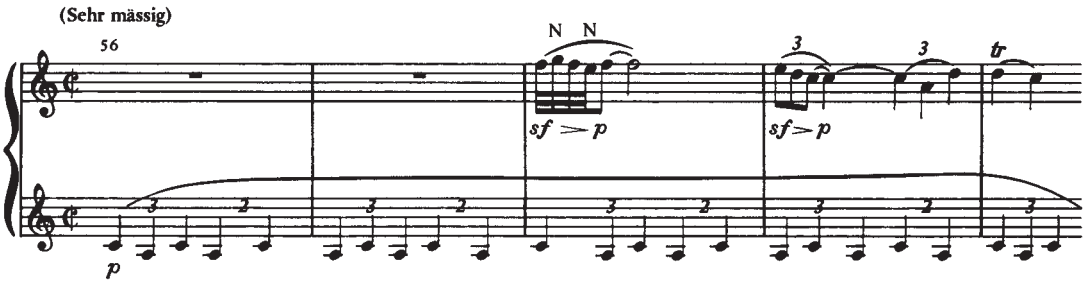
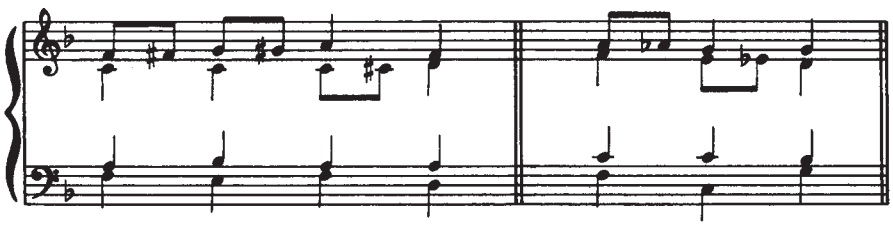
(b) Mahler, *Das Lied von der Erde*, VI



14. *Chromatic Passing and Neighboring Tones.* A convenient and logical way to introduce the study of chromaticism is through chromatic passing and neighboring tones—as details of figuration, these can "color" the music without changing its basically diatonic character. Chromatic passing tones divide a whole step into a chromatic plus a diatonic half step. Usually the chromatic half step comes first. That is, the chromatic passing tone will usually sharp the preceding note when moving up (F-F♯-G or B♭-B♮-C) and flat it when moving down (A-A♭-G or E♭-E𝄫-D♭). Example 21-22 illustrates.

21-22 *chromatic passing tones*



Chromatically altered neighbors occur frequently. If the diatonic neighbor is a whole step away from the main tone, bringing it a half step closer makes the two tones sound more connected. Chromatically altered neighbors are normally notated as minor 2nds, rather than as augmented unisons. Chromatic lower neighbors, which produce the melodically active effect of leading tones, occur more often than upper ones. At times, the chromatic alteration is almost obligatory in that it prevents ugly repetitions and provides a better connection with the main tones. Play Example 21-23 as written and then with diatonic neighbors; compare the effect.

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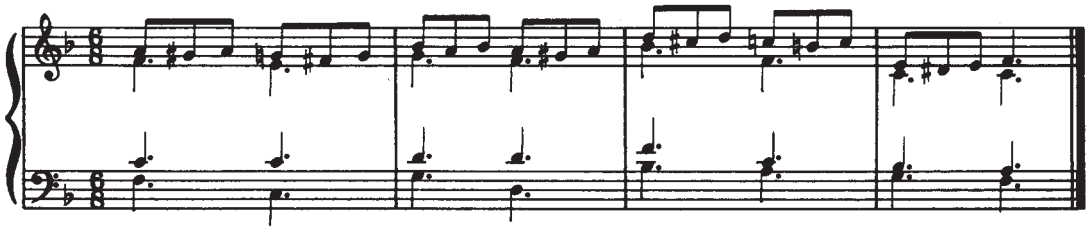
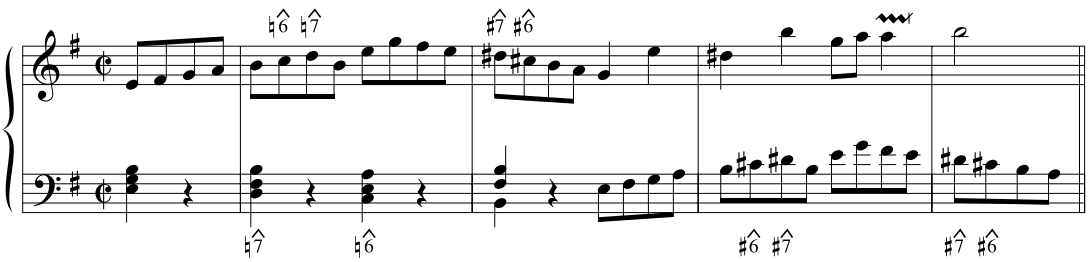
21-23 *chromatic neighbors*



Chromatically altered neighbors often form part of compound figures such as the turn or the double neighbor (Example 21-12). Chromatic appoggiaturas create a particularly pungent effect, as we can hear in Example 21-1. The accented dissonances in that Schumann excerpt are, for the most part, chromatically raised lower neighbors.

15. *Figurations Using $\hat{6}$ and $\hat{7}$ in Minor.* Figurated passages in minor generally use the ascending or descending forms of the melodic minor scale depending on the direction of the line. This is not invariable, however. What goes on in the other parts and the larger harmonic context sometimes leads to the use of lowered $\hat{6}$ and $\hat{7}$ ascending and of raised $\hat{7}$ and $\hat{6}$ descending. Example 21-24 provides an interesting illustration. The descending bass line E-D♯-C♮-B brings about the use of C♮ and D♮ in the right-hand part, even though the line rises (bar 1, 1st half). At the beginning of bar 2, the V chord motivates the use of D♯ and C♯ in a descending line. Note that when the left hand takes over the eighth-note figure in bars 2 and 3, C♯ and D♯ now occur in the ascending line. Why?

21-24 *Bach, Partita No. 6, Air, BWV 830*



16. *Parallels Caused by Passing and Neighboring Tones.* As we mentioned earlier, the way in which composers treat figuration varies considerably depending on such factors as medium, style, tempo, and rhythm. Nowhere is this variability more evident than in connection with parallel 5ths, octaves, and unisons caused by tones of figuration. These tones form what one might call a surface layer of the musical texture, so parallels caused by them have a different character and meaning from those caused by the more stable elements of the

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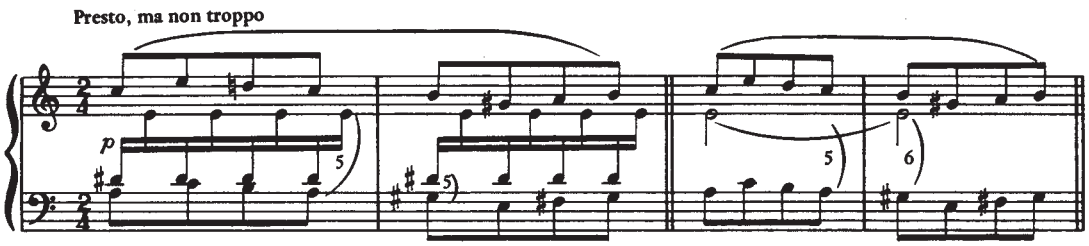
underlying voice leading. Sometimes—especially when the basic voice leading can be perceived clearly—"surface" parallels weaken neither the independence of voices nor the tonal coherence of a passage. They occur in the music of all the great composers. But their admissibility depends so much on the particular character of a passage that no one can formulate "rules" to fit every conceivable situation. All we can do is indicate some very general guidelines.*

In general, unisons and octaves caused by figuration are more problematic than 5ths are. (Of course we are not referring to doublings in free texture as discussed in Unit 6, Section 10.) Although such unisons and octaves sometimes appear in a composition (mainly as a result of chordal skips), they do so much less often than 5ths, and you should avoid them.

Fifths—especially when produced by dissonant passing and neighboring tones (unaccented or accented)—occur much more freely than unisons or octaves do. In particular, when the 5ths arise out of relatively rapid figuration, the listener can easily take in the basic voice leading; the seeming parallels, then, create no ill effect whatsoever. An accented chromatic lower neighbor D♯ (Example 21-25a) produces unobjectionable surface 5ths that do not obscure the essential voice leading shown in Example 21-25b. Note that although the D♯ is played by the left hand and the E by the right, they represent one voice (E decorated by a lower neighbor) rather than two voices.

21-25 *Brahms, Paganini Variations, Op. 35, Book I, Finale*

(a) *(b) reduction*

A consonant passing or neighboring tone forms a more stable element of the texture than a dissonant one. Therefore, 5ths produced by such a consonant tone, like those produced by a chordal skip, are more problematic than are those produced by dissonances, and you should avoid them.

17. *Parallels Averted by Passing and Neighboring Tones.* As a rule, parallel octaves and unisons require a stronger tonal event than a passing or neighboring tone to preserve the effect of independent voice leading. Among tones of figuration, only the chordal skip is, in principle, strong enough to avert octaves and unisons.

*Sometimes the masters themselves (Chopin is a notable example) were unsure whether to admit a particular case of "surface" parallels, as we can sometimes see from the way in which they revised their music.

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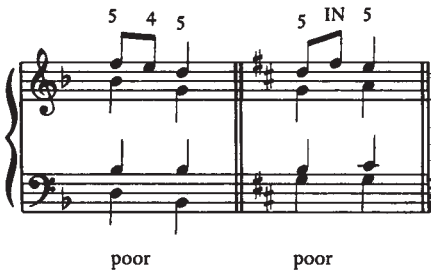
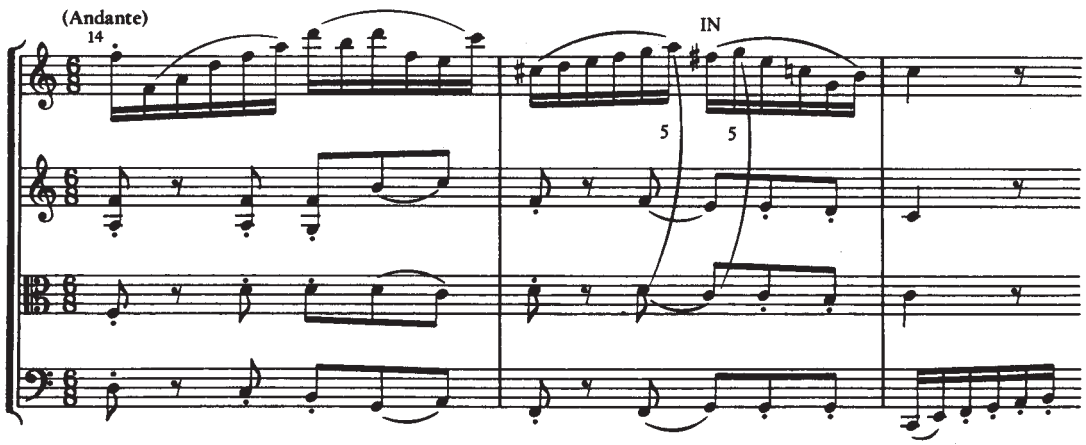
Unaccented passing tones and incomplete neighbors are usually too weak even to break up 5ths effectively (Example 21-26). (The normal—as distinct from incomplete—neighbor cannot break up parallels at all because it returns to the tone that it came from.)

21-26 *5ths not broken up*

(a) *(b)*

Accented passing tones and incomplete neighbors, on the other hand, displace the second 5th, causing it to be approached by oblique rather than parallel motion. For this reason, they form better correctives between 5ths, especially between the upper voices. In the Mozart fragment of Example 21-27, 5ths between the first violin and viola are broken up by the accented neighbor, F♯, of the first violin. Notice that the 5ths appear on metrically weak parts of each beat (review Example 5-13). The use of accented passing and incomplete neighboring tones to break up 5ths, incidentally, is not characteristic of Bach's chorale style.

21-27 *Mozart, String Quartet, K. 590, II**



*In this excerpt, the viola reinforces the 1st violin by sounding its more important tones an octave lower; hence, the apparent parallel octaves at the end of bar 15 are really octaves by doubling.

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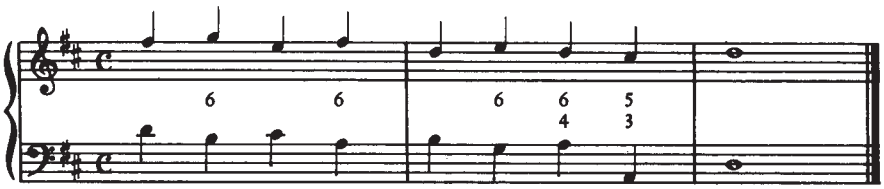
POINTS FOR REVIEW

1. The five fundamental types of figuration are the chordal skip (arpeggio), the passing tone, the neighboring tone, the suspension, and the anticipation.
2. The chordal skip is used to intensify rhythmic activity and to improve melodic lines. It makes polyphonic melody possible.
3. The passing tone, which is normally unaccented, usually fills in a third; sometimes it is necessary for melodic continuity. The chromatic passing tone fills in a whole step.
4. The neighboring tone, also normally unaccented, decorates a stationary tone from above (upper neighbor) or below (lower neighbor). The double neighbor is derived from the neighboring tone.
5. The chromatic neighbor is normally notated as a minor 2nd; a chromatic lower neighbor often connects better with the main tone than a diatonic one does (Example 21-23).
6. The unaccented incomplete neighbor decorates the preceding tone (échappée) or the following one.
7. Accented passing and neighboring tones function as displacements of the normal, unaccented type. An accented dissonance is often called an appoggiatura.
8. Parallels caused by chordal skips are usually faulty; avoid them.
9. Parallel 5ths caused by a passing or neighboring tone are
   a. almost always bad if the passing or neighboring tone is consonant.
   b. often good, in instrumental style, if the passing or neighboring tone is dissonant.
   c. usually avoided in chorale style.
10. Chordal skips can break up octaves, unisons, and 5ths.
11. No passing or neighboring tone can break up octaves or unisons.
12. The unaccented passing or neighboring tone is usually too weak to break up 5ths. 5ths can be averted by the accented passing or neighboring tone, but this usage is not characteristic of chorale style.
13. Harmonic context often determines which form of $\hat{6}$ and $\hat{7}$ are used in minor. Review Section 15.

EXERCISES

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

1. Preliminaries.
   a. Select five sequential progressions from Unit 18. Add chordal skips, passing tones, and neighbors—not necessarily all three types in any given progression. Complete any incomplete progression with a suitable cadence. This exercise can be done at the keyboard. *Optional:* Work out more than one version of the same sequence.
   b. Fill in the inner voices and add passing tones to the outer voices.

   c. Do the same thing in F minor.

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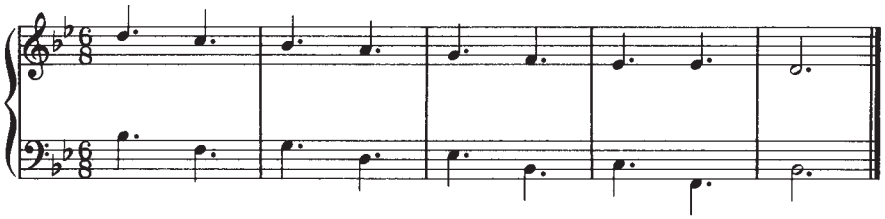
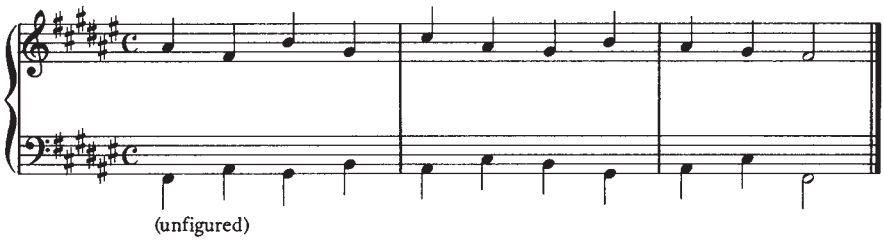
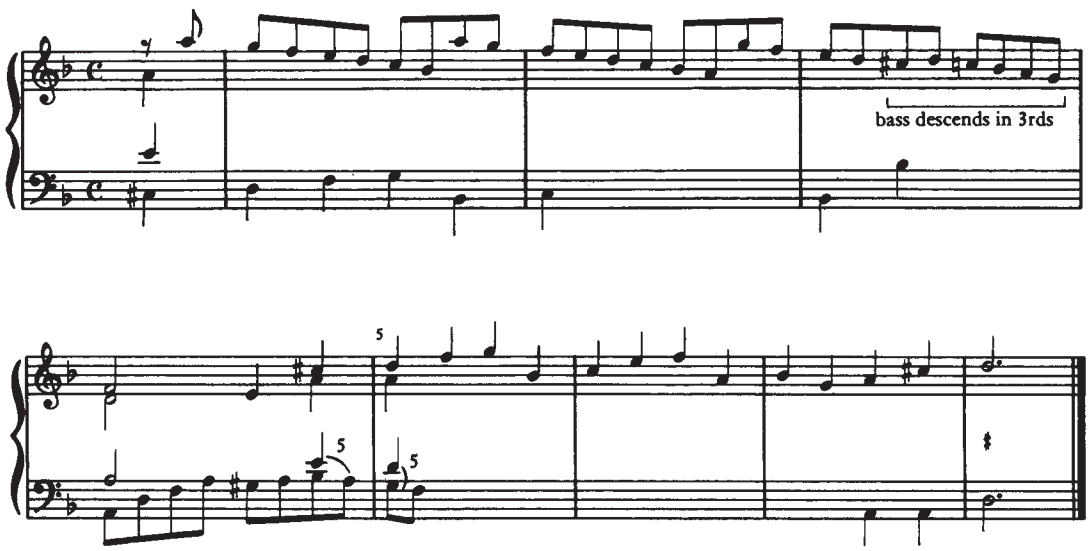
d. Fill in the inner voices and add neighbors, diatonic or chromatic, to the outer voices.

e. Fill in the inner voices and add accented and normal passing tones in complementary rhythms to the outer voices.

2. Melody. Continue the quarter-note rhythm in the bass through bars 2 and 3, then continue the eighth-note rhythm to the cadence in bar 7. (The 5ths in bars 4–5 are OK; why?)

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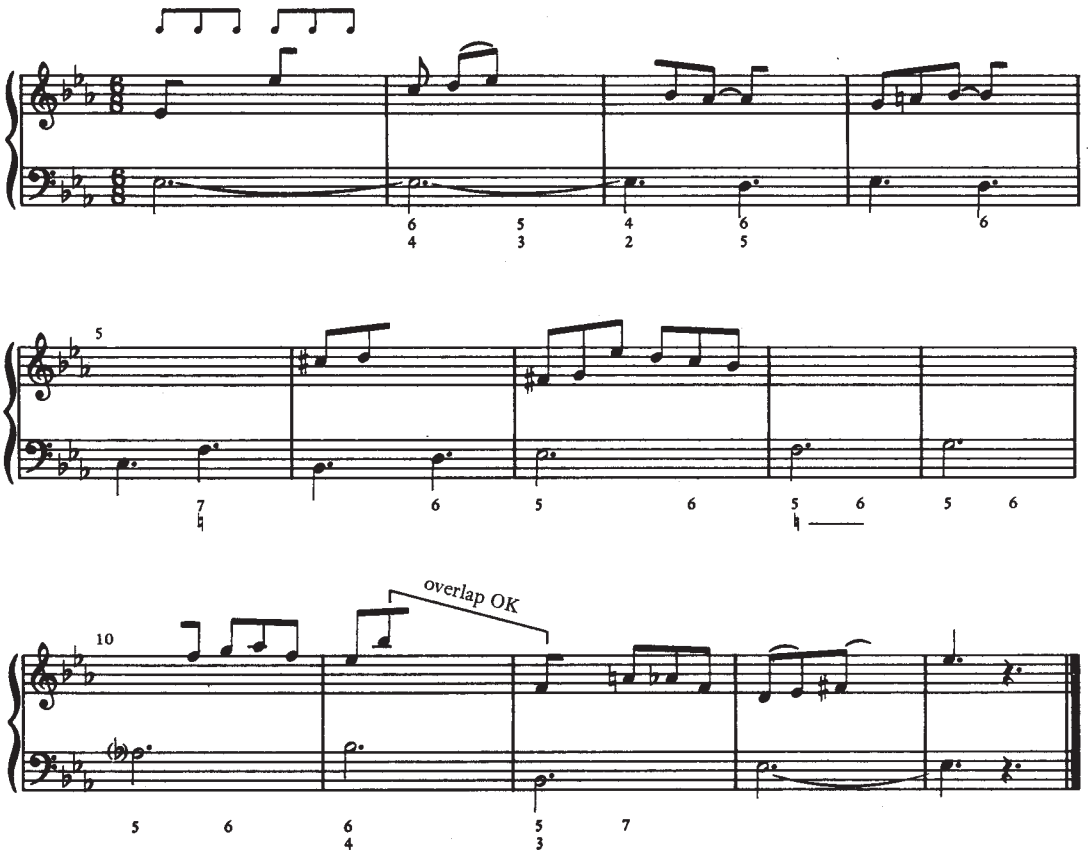
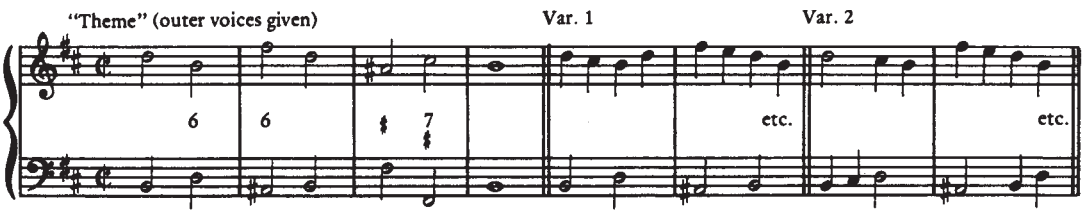
3. Figured bass. Complete the soprano, using tones of figuration. This exercise includes chordal skips and incomplete neighbors (chromatic and diatonic). Measures 7–10 or 11 might be set for three voices.

4. Add inner voices to the "Theme." Then write five or more variations, using different rhythmic patterns and as many types of figuration as possible. Label the figuration (P, N, etc.). Refer back to Unit 5, Section 16, for a list of the appropriate abbreviations.



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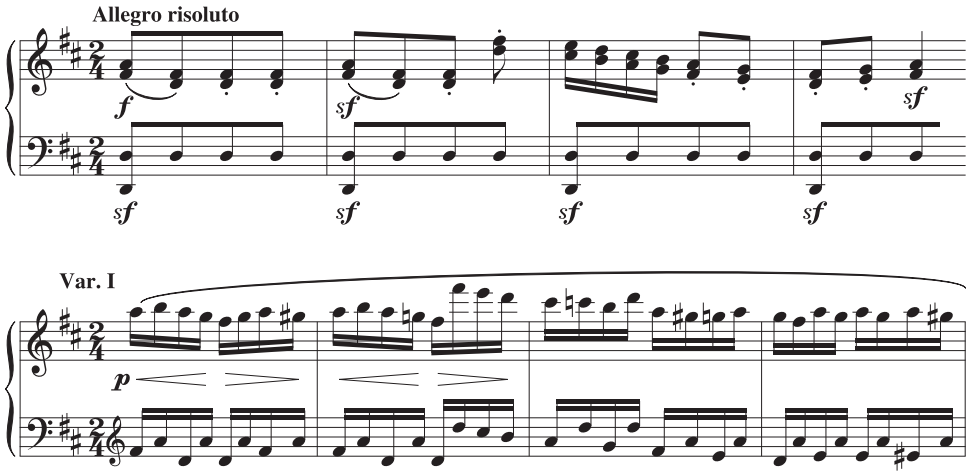
5. Compare bars 1–4 of the "Theme" to bars 1–4 of variation 1. For the right hand of the variation, label all tones of figuration with the symbols P, N, IN, or CS (consonant skip).

Beethoven, *Variations* Op. 76

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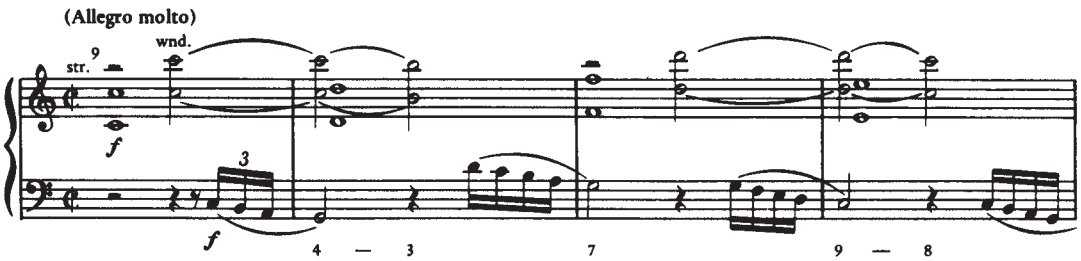
UNIT

22 Rhythmic Figuration

22-1 Mozart, Symphony No. 41, ("Jupiter"), K. 551, IV



Suspensions

1. ***Rhythmic Origin.*** An important purpose of figuration is to animate and individualize the voice or voices in which it appears. With the types of figuration that we have studied so far, increased rhythmic activity helps to animate the texture; arpeggios and passing and neighboring tones introduce quicker time values into melodic lines. With these types of figuration, however, the rhythmic activity, important as it is, arises mainly as a by-product of melodic motion. With the suspension, rhythm rather than melody assumes paramount importance. A suspension arises when a tone moves out of its normal position in time and continues into the segment of time that would normally belong to the next tone.*

*We discuss the essential characteristics of suspensions in Unit 5, Sections 8 and 9. It will be beneficial to refer to that material as you read Sections 1 to 5 of this unit.

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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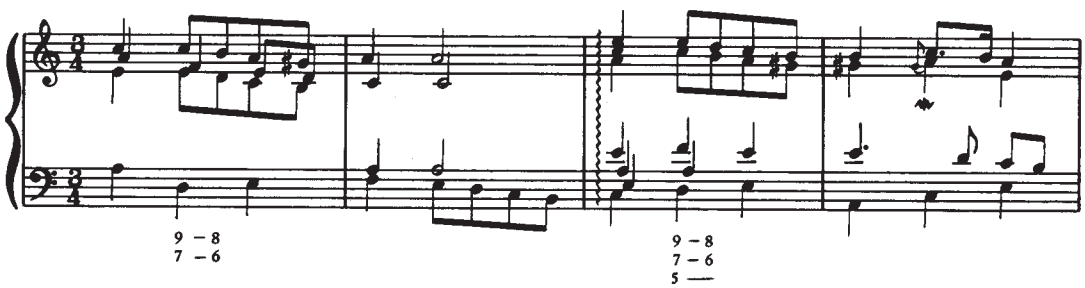
Example 22-1 shows suspensions caused by shifted (syncopated) rhythm. The tied half notes form a counterpoint to the whole notes, the main subject of the movement. The first and third tones of this counterpoint are rhythmically displaced; they are shifted over to the middle of the bar rather than appearing at the downbeat. As a consequence of this shift in position, the first and third tones persist into the following bars where they form dissonances against the prevailing harmonies. And as a further consequence, the second and fourth tones lose half their normal value.

A figure containing a suspension consists of two tones (in the Mozart example, there are two such figures: C-B and D-C). The first of the two tones divides into two parts, each with its own distinct function; the complete figure, therefore, contains *three* elements, two belonging to the first and one belonging to the second tone. We call these three elements the *preparation,* the *suspension,* and the *resolution* (or release). The preparation is the first part of the initial tone (in Example 22-1, the half notes C and D *before* the bar lines); typically, though not invariably, the preparation is consonant. The suspension is the second part of the initial tone (in the Mozart example, the half notes C and D *after* the bar lines); typically, though not invariably, the suspension is dissonant. The release is the second tone; if the suspension is dissonant, the term *resolution* is normally used instead.

In Example 22-2, the suspensions arise out of an extension rather than from a shift of the initial tones. In addition the suspensions are restruck rather than tied to the preparations as in the Mozart excerpt. The difference between ordinary and restruck suspensions is not negligible, but it has much more to do with the surface texture of the music than with fundamental rhythmic and tonal relationships. In the Bach excerpt, note that suspensions appear at the same time in two voices; these are called "double suspensions" and typically occur, as in the Bach, in parallel 3rds or 6ths.

22-2 *Bach, English Suite No. 2, Sarabande*



2. Metric Position. The basic rule governing the suspension is that it appears in a metrically *strong* position relative to the release or resolution. Example 22-3 shows some characteristic possibilities. Note that (in free textures) the preparation is metrically free and may occur either as an accented or an unaccented note; the metric rule governs only the relationship between the suspension and its release.

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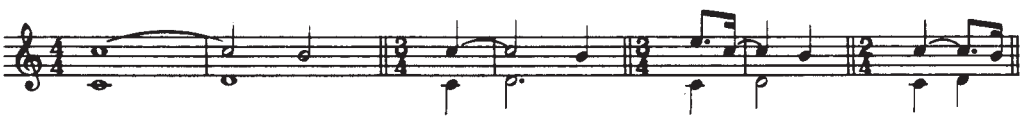
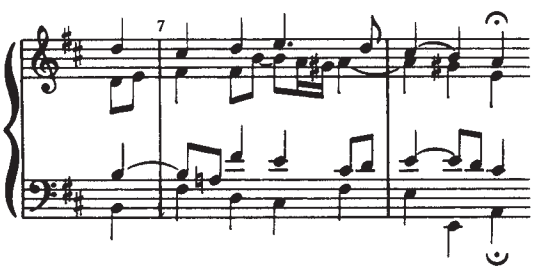
22-3 *suspensions metrically strong*

(a) (b) (c) (d)

3. ***Dissonance Treatment.*** Suspensions became part of the vocabulary of composition during the fourteenth century, a period when composers experimented a good deal with displaced rhythms and when musical notation became capable of dealing with such rhythms. By the early part of the fifteenth century, composers had learned to treat suspensions in ways that remained characteristic throughout the history of tonal music. Among the usages they established, one is of particularly far-reaching importance: A dissonant suspension must resolve to a consonance by *stepwise, downward* motion. Because it is metrically accented, the suspension dissonance receives much more emphasis than most passing and neighboring tones. It follows naturally, therefore, that its resolution should sound like a relaxation, a decrease in intensity. This effect is better achieved by downward than by upward melodic motion. From the Baroque period on, upward resolutions (as in Example 22-2, bar 4), though still exceptions, occur rather frequently in one particular voice-leading situation (Section 19).

A consonant suspension does not need to resolve; it can move up or down.

4. ***Suspensions and Polyphonic Textures.*** Suspensions—especially dissonant ones—create a much greater degree of tension than do most passing and neighboring tones; consequently, they bring into prominence the voice in which they occur. By bringing out first one, then another of the lines, suspensions can be very helpful in making a polyphonic texture. A glance at *The Well-Tempered Clavier* will show how frequently Bach employed suspensions in his fugues. And suspensions can be just as useful in enhancing the independence of parts in compositions not as obviously polyphonic as fugues. Example 22-4 shows suspensions first in the tenor, then in the alto (with a decorated resolution), then in the soprano, and finally in the alto again, where the suspension forms part of the cadential $\frac{6}{4}$. Note in particular how much activity and prominence the suspensions bring to the inner voices. Recognizing and bringing out suspensions is of particular importance to the performer; dissonant suspensions receive something of an accent and their resolutions are softer.

22-4 *Bach, Chorale 135*

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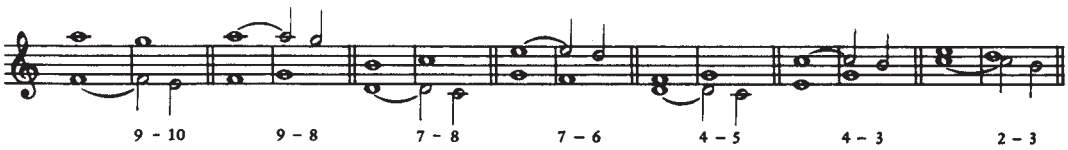
5. *Numerical Symbols.* Suspensions are identified by numbers representing the intervals formed by the suspension proper and by its release or resolution. Example 22-5 shows the numerical symbols for the most important dissonant suspensions as they would occur in a two-voice texture.*

22-5 *numerical symbols*

6. *Suspensions in Four Voices.* Unlike most tones of figuration, suspensions (and their resolutions) usually receive numerical symbols in figured basses. Some of these symbols point to recurring, idiomatic progressions; you should learn these figures and the idioms they represent. Especially important are the suspensions into $\frac{5}{3}$ and $\frac{6}{3}$ chords; you should memorize these progressions. You should then have no problems with suspensions into $\frac{6}{4}$ and seventh chords, even if these figures are not memorized.

With more than two voices, suspensions in any of the upper voices are measured from the bass; thus, the first three illustrations in Example 22-6 all contain 4-3 suspensions. Suspensions in the bass usually form the interval succession 2-3 or 9-10 with one of the upper voices; in analyzing music, these figures alone are often sufficient (22-6d), but more often—especially in figured basses—it is necessary to indicate a more complete set of intervals above the bass (22-6e). Horizontal lines following the figures indicate that the upper-voice tones are sustained through the bass resolution.

You have probably noticed that in the case of the upper-voice suspensions 4-3, 7-6, and 9-8 the figured bass does not indicate the tones of the remaining two voices. In addition, even with the more fully figured bass suspensions, doublings are not indicated. Thus, to set these suspensions properly in four voices, you must learn what additional intervals are implied by the figures. Like accented passing and neighboring tones, suspensions can produce various combinations of numbers. Recalling the seven standard figured-bass symbols (review Unit 21) will help you identify how suspensions decorate triads and seventh chords. The numbers resulting after the resolution of the suspension are normally one of the seven formations (remember that some numbers are commonly omitted; 6, for instance, is shorthand for the complete $\frac{6}{3}$). These will be discussed in the following sections.

*Although the 7-8 suspension in the lower voice is excluded from strict two-part counterpoint, it sometimes occurs in four-part writing, often to create a harmonic emphasis. The prohibition, however, still exerts an influence in four-part writing. This is reflected in the strong tendency to avoid anticipating the tone of resolution. See Sections 12 and 13 of this unit.

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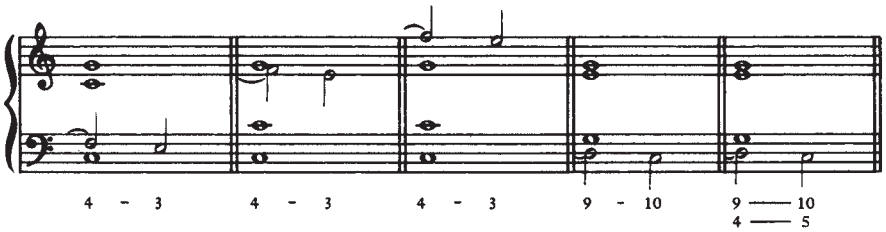
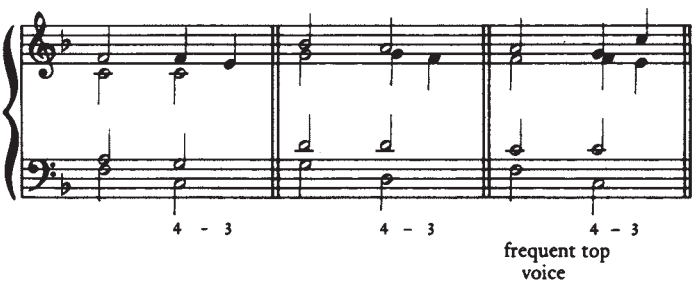
22-6 *suspensions in four voices*

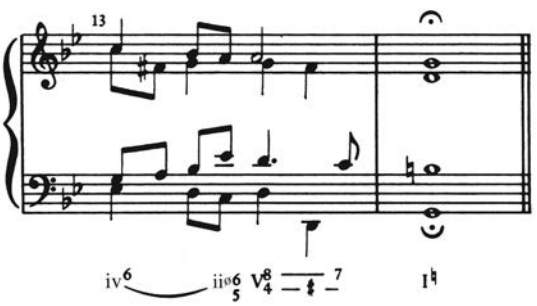
(a) *(b)* *(c)* *(d)* *(e)*



7. *The 4-3 Suspension.* The 4-3 suspension is accompanied by a 5th and resolves into a $\frac{5}{3}$ chord. The complete figure (not including doubling) would be $\frac{5}{4\text{-}3}$. Usually the bass tone is doubled, but the 5th is also a possibility. The 4-3 suspension appears commonly in any of the upper voices (Example 22-7).

22-7 *4-3 suspension*

(a) *(b)* *(c)*

8. *The Cadential Suspension ($V^{4\text{-}3}$).* One of the most important compositional uses of the suspension is to enhance the effect of a cadence by emphasizing the leading tone. Frequently, the cadential suspension takes the form of a simple 4-3 above V. (Review Unit 11, Section 2, where this usage is discussed in connection with the cadential $\frac{6}{4}$.) Note that $V^{4\text{-}3}$ most often (though not always) occurs in the alto voice, as it does in the Bach Chorale of Example 22-8.

22-8 *Bach, Chorale 172*

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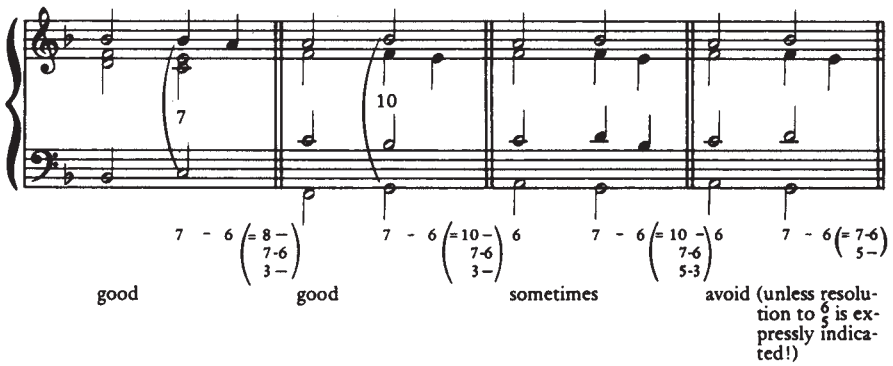
9. *The 7-6 Suspension.* The 7-6 suspension (Example 22-9) is accompanied by a 3rd and normally resolves into a $\frac{6}{3}$ chord. There are two possible doublings, usually depending on the soprano position. If the 7th is in the soprano (Example 22-9a), the bass tone is doubled; if the 10th above the bass is in the soprano (Example 22-9b), the soprano note is doubled. In Bach's chorales, a 5th will sometimes accompany a 7-6, but the 5th must move "out of the way"—usually to the 10th above the bass—so that the chord of resolution is a $\frac{6}{3}$ (Example 22-9c). Example 22-9d shows what happens if the 5th of $\frac{7}{5}$ is held through; avoid this resolution into a $\frac{6}{5}$ chord unless the figures specify it.

22-9 *7-6 suspension*

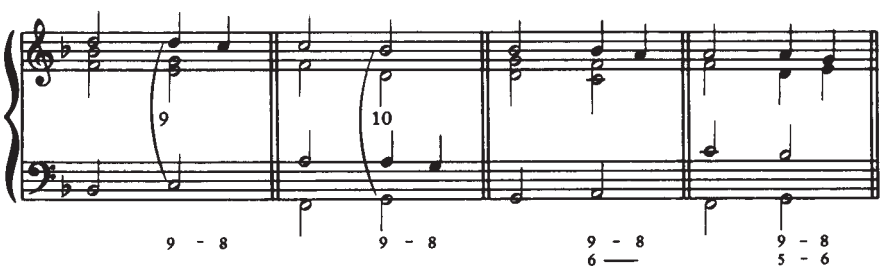
(a) bass doubled *(b) soprano doubled* *(c)* *(d)*



10. *9-8, $\frac{9\text{-}8}{6}$ and $\frac{9\text{-}8}{5}$.* The 9-8 suspension (Example 22-10) is always accompanied by a 3rd. This suspension is versatile in that either a 5th (Examples 22-10a and b) or a 6th (Example 22-10c) may be sustained through the dissonance and its resolution; alternatively, a 5-6 succession may accompany the 9-8 (Example 22-10d). As noted earlier, this means that the 9th suspends into either a $\frac{5}{3}$ or a $\frac{6}{3}$ triad. The most frequent soprano possibilities are the 9-8 (Examples 22-10a, c, d) or the 10th above the bass (Example 22-10b).

22-10 *9-8 suspension*

(a) *(b)* *(c)* *(d)*



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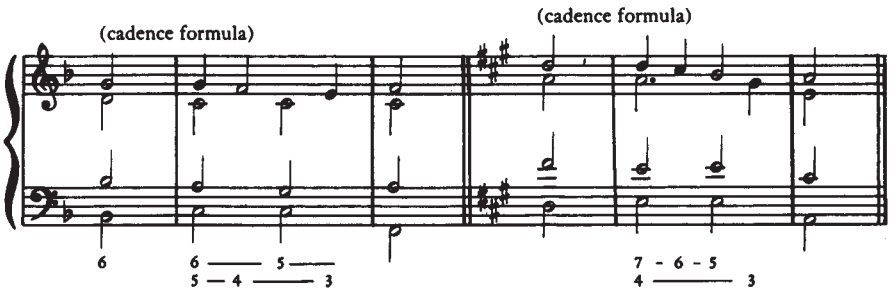
11. ***$\frac{6}{5\text{-}4}$ and $\frac{7\text{-}6}{4}$.*** These are suspensions into $\frac{6}{4}$ chords—the first into the 4th of the $\frac{6}{4}$ and the second into the 6th. They occur most frequently at cadences (Example 22-11).

22-11 *suspension into $\frac{6}{4}$ chords*

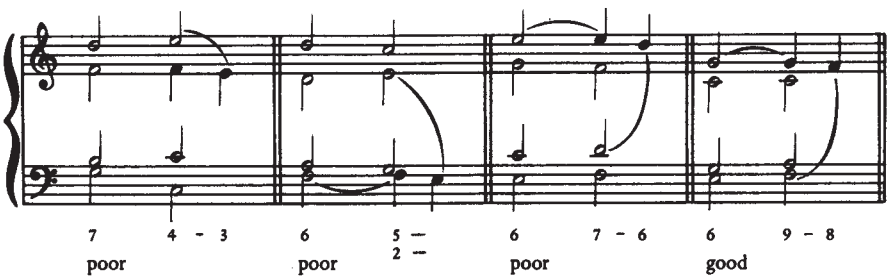
(a) *(b)*



12. ***Anticipating the Tone of Resolution.*** In a more or less homogeneous texture (four-part choral, for example), it is usually best to avoid having the tone of resolution in another voice before the suspension actually resolves. Anticipating the tone of resolution in this way produces an unclear sound and weakens the effect of the resolution. The one situation where anticipating the resolution produces no ill effect is with a 9-8 above the bass. The function of the bass is so different from that of an upper voice that we do not hear the bass tone as a duplication of the tone of resolution (Example 22-12).

22-12 *anticipating tone of resolution*

(a) *(b)* *(c)* *(d)*



In a texture with marked contrast in rhythm, timbre, or dynamics, anticipating the tone of resolution is much less problematic. Beethoven, in particular, would sometimes allow a suspension in the top voice to sound against the tone of resolution an octave lower in one of the inner voices.*

*For an example, see Beethoven's Cello Sonata, Op. 102/2, II, bar 31.

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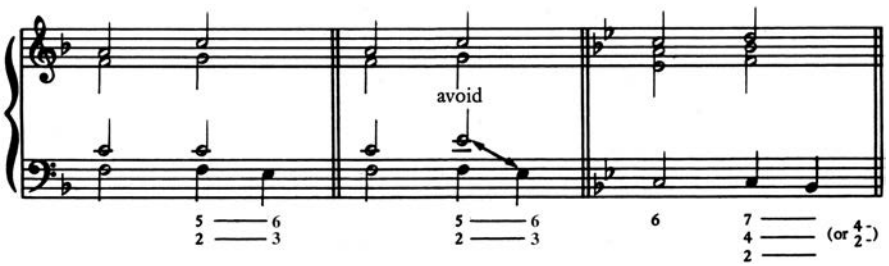
13. *Bass Suspensions.* The most common bass suspension is the $\frac{5}{2}$, which delays the bass of a $\frac{6}{3}$ chord—very frequently V^6 (Example 22-13a). Anticipating the tone of resolution creates a poor effect, especially if, as in Example 22-13b, the suspension resolves to the leading tone. Bass suspensions into $\frac{5}{3}$ chords (as shown in Example 22-6e) occur less often; such suspensions can be labeled $\frac{9}{4}$ or—very confusingly—$\frac{4}{2}$ (don't confuse this with the $\frac{4}{2}$ that stands for $\frac{6}{4}$ and that resolves to $\frac{6}{3}$). Sometimes, instead of $\frac{4}{2}$, the figure $\frac{7}{4}$ is used (Example 22-13c); remember, after the suspension resolves downward, add 1 to each number and the figure becomes the familiar $\frac{5}{3}$. This indicates a doubled root. Despite the anticipated resolution, this usage occurs fairly frequently, especially in sequences.

22-13 *bass suspensions*

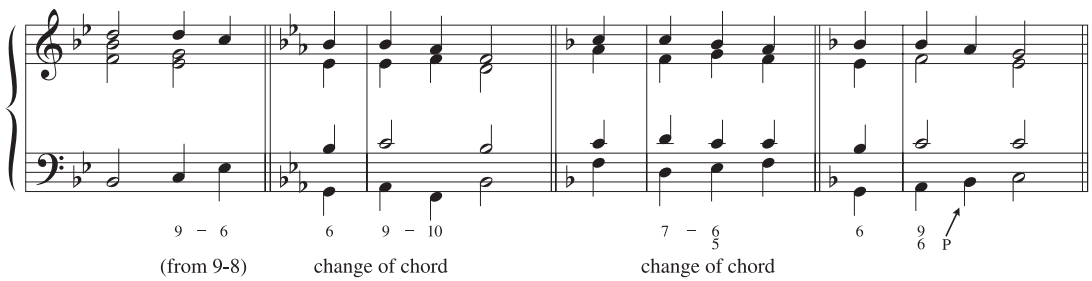
(a) *(b)* *(c)*



14. *Suspensions with Moving Bass.* The bass can move at the same time the suspension resolves, as Example 22-14 shows. The successions 9-6 (Example 22-14a) and 9-(10) (Example 22-14b) occur frequently. The bass motion can cause a change in the position of the same chord (Example 22-14a), a change of chord (Examples 22-14b and c), or simply a passing tone without chordal significance (Example 22-14d).

22-14

(a) *(b)* *(c)* *(d)*



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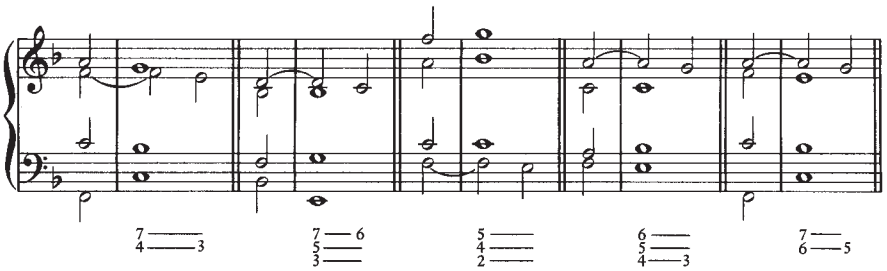
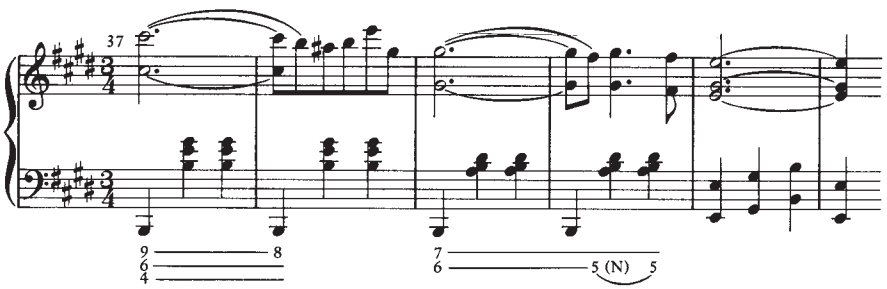
15. *Suspensions into Seventh Chords.* Example 22-15 shows a few sample possibilities and an excerpt from the literature. The $\frac{5}{4}{}_{2}$ shown in Example 22-15c is a very common bass suspension, closely related to the $\frac{5}{2}$. The $\frac{7}{6}$ (Examples 22-15e and f) occurs rather frequently—especially in nineteenth-century music—as a delay of $\hat{2}$ over V^7. To call it a "thirteenth chord," as some harmony books do, is misleading; the "thirteenth" is a melodic, not a chordal, element. In the Josef Strauss Waltz (Example 22-15f), the $\frac{7}{6}$ forms a beautiful suspension resolving into V^7.

22-15 *suspensions into seventh chords*

(a) *(b)* *(c)* *(d)* *(e)*



(f) Josef Strauss, Dynamiden, Op. 173, Waltz No. 1



16. *Suspensions in Series and Sequences.* Many idiomatic progressions derive from series of consonant and dissonant suspensions—especially 5-6 and 7-6 (review Example 5-15). For progressions based on the 5-6 series, review Unit 18, Section 11, and remember that the 5-6 series produces a particularly good setting of an ascending scale in the bass.

Similarly, a series of 7-6 suspensions can accompany a descending bass scale. The progression normally begins with a 5-6 to provide a stable chord at the opening. As with the 5-6 series, three-voice texture is the norm (Example 22-16a), but the use of chordal skips makes four voices a possibility (Examples 22-16b and c). In Example 22-16d, the tenor alternately doubles the bass at the octave and the alto at the unison; this possibility is best where the melodic augmented 4th does not appear.

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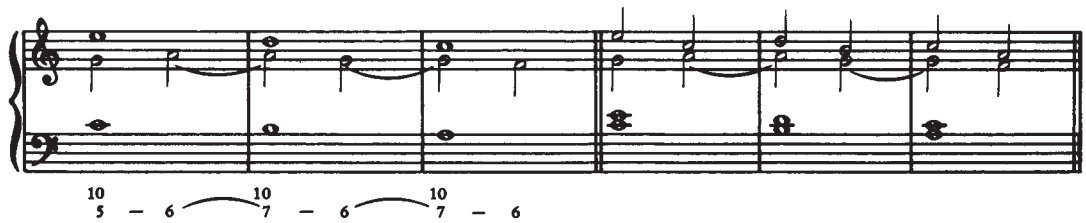
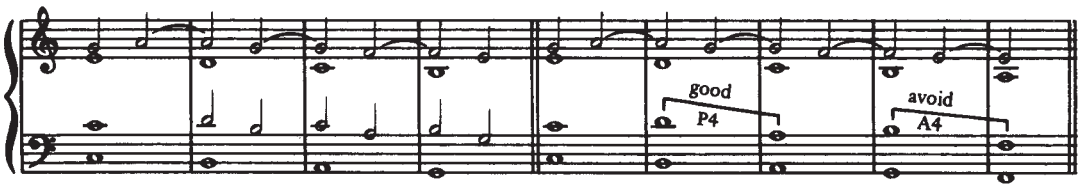
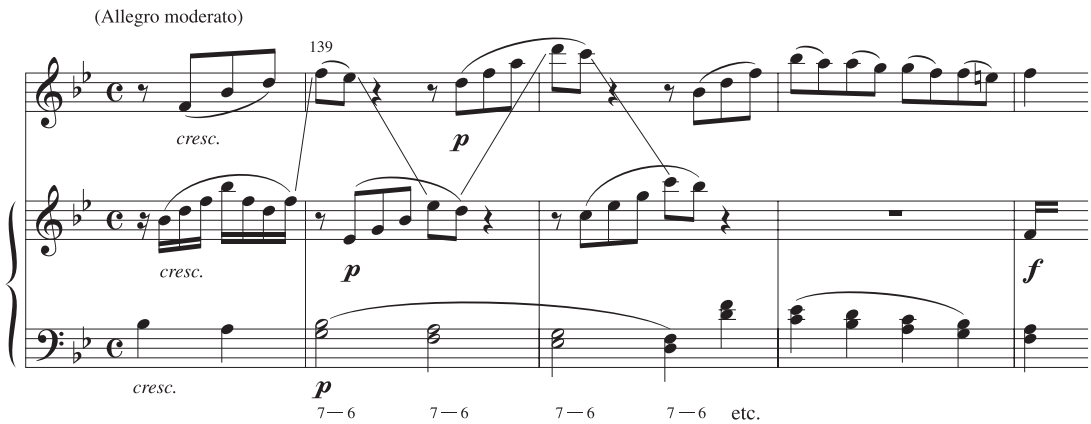
22-16 *7-6 suspensions in series*

(a) in three voices *(b)*



(c) *(d)*

As with the 5-6 series, a chain of 7-6 suspensions often produces the effect of a sequence. In Example 22-17, note the beautiful way in which the piano and violin share the melodic line.

22-17 *Mozart, Violin Sonata, K. 378, I*



The descending 5-6 sequence (Example 18-16b) can be decorated by suspensions in the bass (Example 22-18a). The $\frac{5}{3}$ variant of the same basic pattern frequently has suspensions in an upper voice; the suspensions will be 4-3's and 9-8's in alternation (Example 22-18b).

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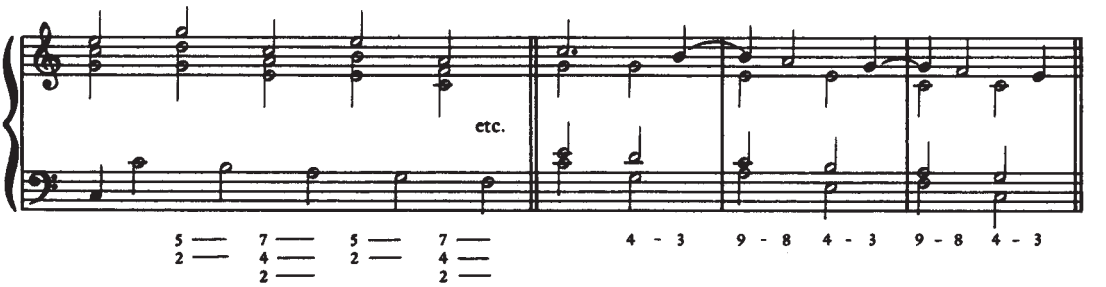
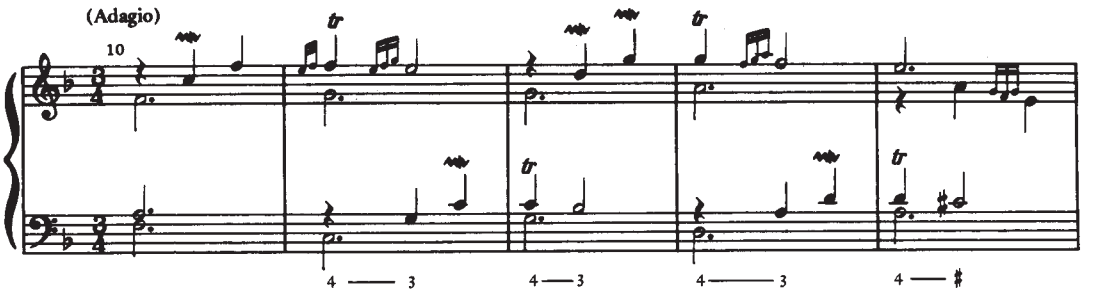
22-18 *descending 5-6's with suspensions*

(a) *(b)*

A rising sequence with ascending 5ths can be decorated by 4-3 suspensions. Frequently, the suspensions occur alternately in two voices, producing imitation (Example 22-19).

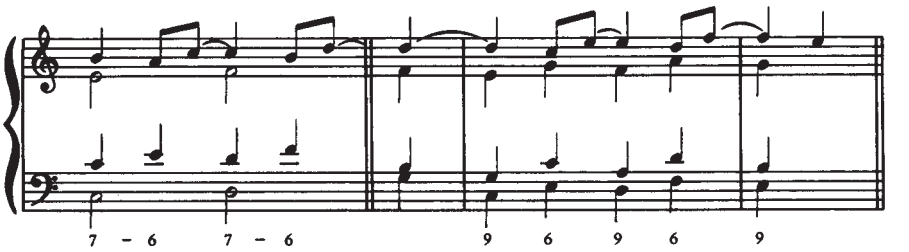
22-19 *Handel, Harpsichord Suite No. 2, III*



In Examples 22-19 and 22-20, the chordal skip following the resolution allows a prevailing upward direction that would be impossible otherwise. The downward resolution characteristic of dissonant suspensions normally makes it easier to use them in descending passages.

22-20 *chordal skips produce a rising line*

(a) *(b)*



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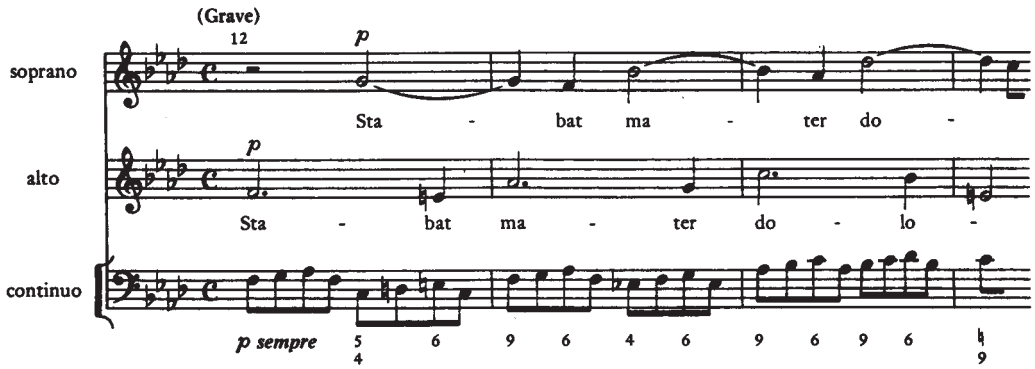
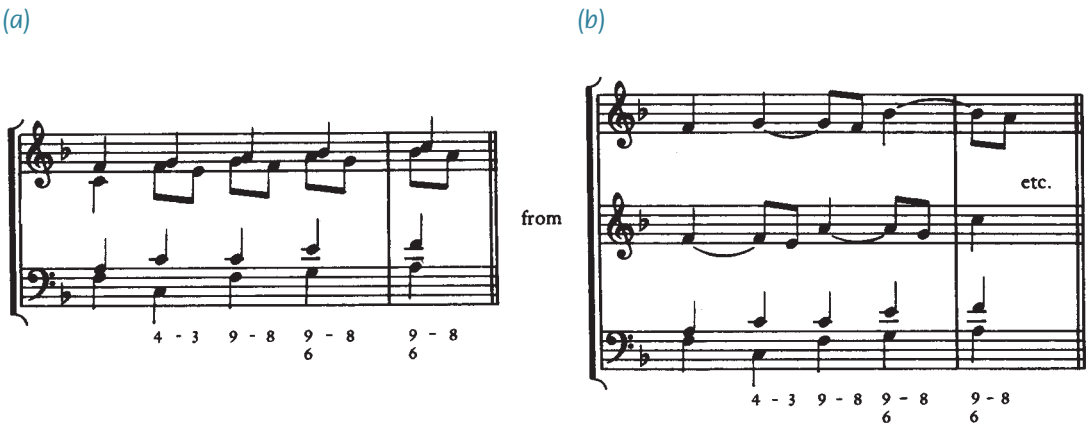
Upward motion can also be secured through the use of suspensions (2-3, 9-10, or 7-6) that alternate between two voices as in Example 22-21 (the 9-6 and 4-6 in bar 13 represent suspensions resolving over a moving bass). Note that the two voices in combination produce the effect of a rising scale; also note the canonic imitation.

22-21 *Pergolesi, Duetto* *(from Stabat Mater)*



17. *Indirect Suspensions.* In free textures, an effect similar to the alternating suspensions of the last example can come about through the use of indirect suspensions—that is, suspensions transferred from one voice to another (Example 22-22).

22-22 *indirect suspensions*



Indirect suspensions are more characteristic of instrumental than of vocal style. They occur not only in series, as in Example 22-22, but also singly.

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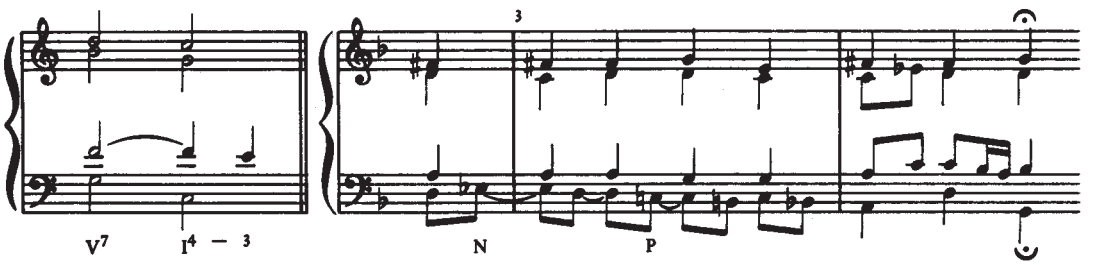
18. *Suspensions with Dissonant Preparation.* In its simplest and most fundamental form, the suspension has a consonant preparation. Sometimes, however, the preparation is dissonant. For example, the 7th of V^7 is frequently suspended to form a 4-3 over I (Example 22-23a). And sometimes neighboring and passing tones can be suspended before resolving, as in Example 22-23b.

22-23 *dissonant preparation*

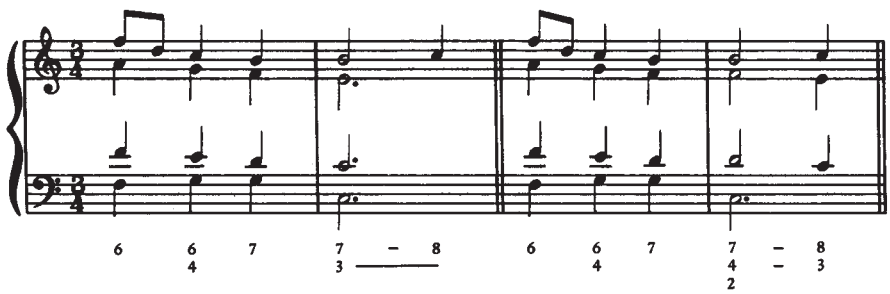
(a) (b) Bach, Chorale 19



19. *Upward Resolution of Dissonance.* The downward resolution of the dissonant suspension, established as a rule of counterpoint in the early Renaissance, remained the normal procedure throughout the entire history of triadic tonality. Starting in the Baroque period, however, one exception to this rule occurs rather frequently. When the leading tone is suspended into the I chord (or, sometimes, the vi chord)—especially at a cadence—it resolves up to $\hat{1}$. Example 22-24 illustrates. In Example 22-24b, the upper tones of V^7 are suspended into a cadential I, producing the triple-suspension formation $\begin{smallmatrix}7\\4\\2\end{smallmatrix}$. Reminder: As ill-luck would have it, there is also the bass suspension $\begin{smallmatrix}7\\4\\2\end{smallmatrix}$, discussed in Section 13. Try not to confuse them.

22-24 *suspended leading tone resolving up*

(a) (b)



Other upward-resolving suspensions are less common. Sometimes $\hat{2}$ suspended over I resolves up to $\hat{3}$, producing a 9-10 progression. Usually this occurs in parallel 3rds or 6ths with $\hat{7}$ moving up to $\hat{8}$ (Example 22-2, bar 4). But sometimes—especially in minor—$\hat{2}$ moves up to $\hat{3}$ unaccompanied by $\hat{7}$-$\hat{8}$ (Example 22-25). This works well because of the half step between $\hat{2}$ and $\hat{3}$.

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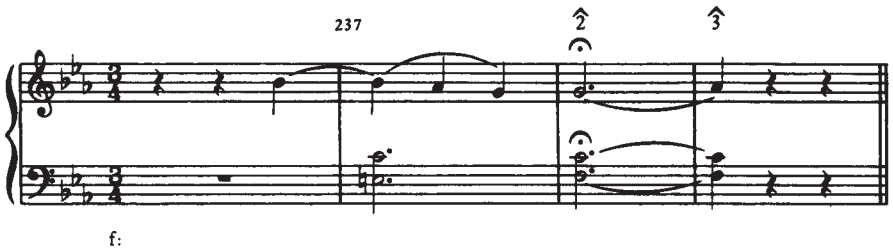
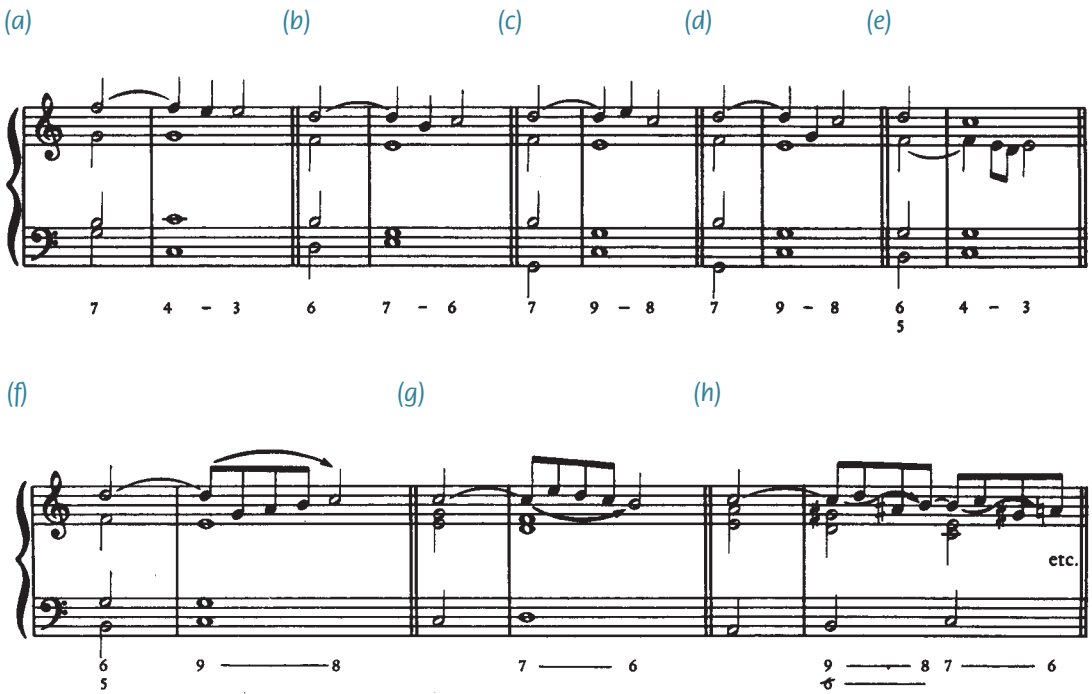
22-25 *Mozart, Piano Sonata, K. 457, III*



20. *Decorated Resolutions.* Frequently, ornamental tones decorate the resolution of a suspension. Example 22-26 shows some possibilities; review also the discussion of fifth species in Unit 5 and Example 5-18.

22-26 *decorated resolutions*



21. *Delayed Resolutions.* A composer can build up tension by delaying the resolution of a suspension. In Example 22-27, the delay is effected by repetition. Note the imaginative way in which Scarlatti brings in the 3rd of the 4-3; it forms part of the rapid descending scale.

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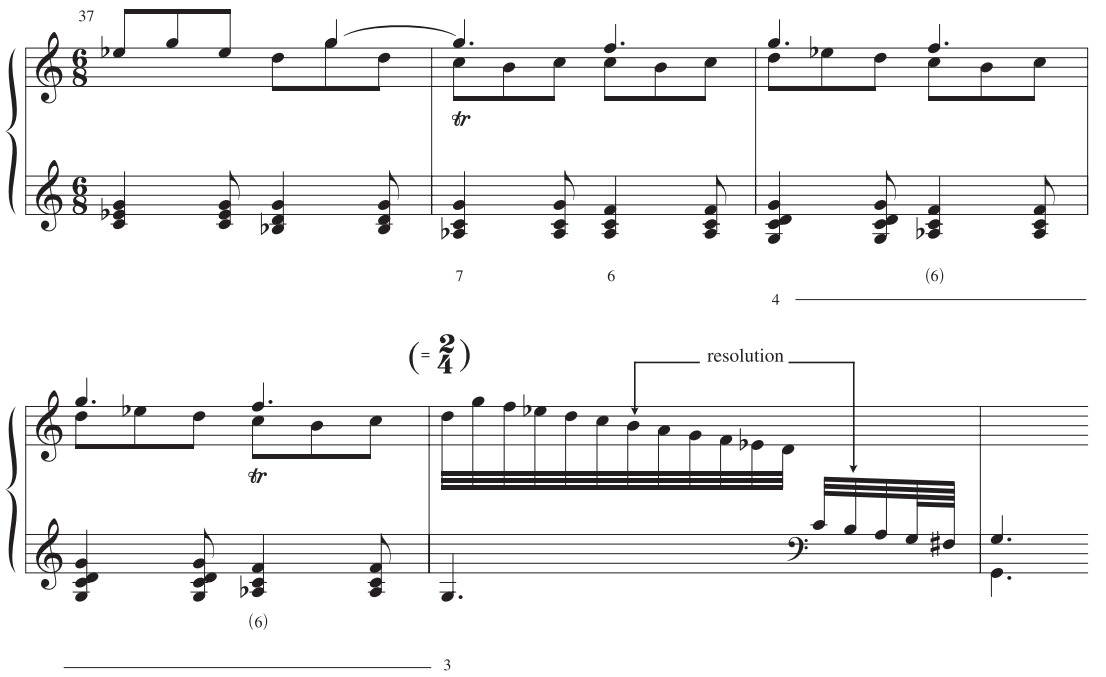
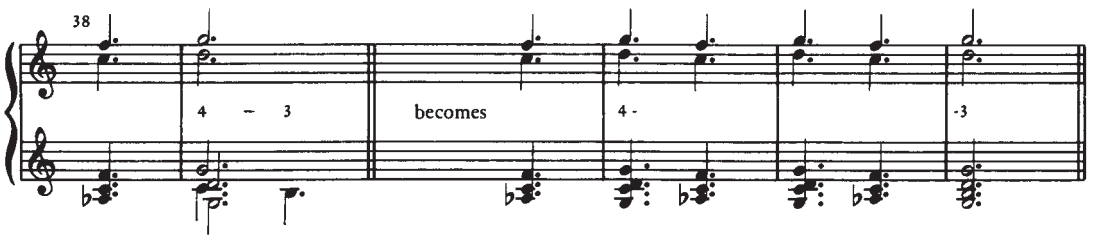
22-27 *Scarlatti, Sonata, K. 159*

(a)



(b) *(c)*

22. *Transferred and Elided Resolutions.* In complex musical textures, suspensions sometimes resolve into another voice and, perhaps, another register, as in bars 6–7 of Example 22-28. The abstract progressions following the Bach excerpt show the same technique in a four-part texture.

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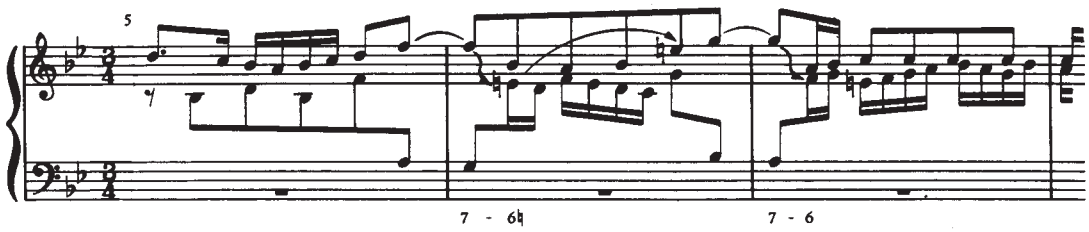
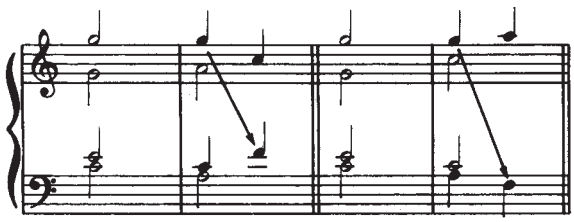
22-28 *transferred resolutions*

(a) Bach, Well-Tempered Clavier I, Fugue 21

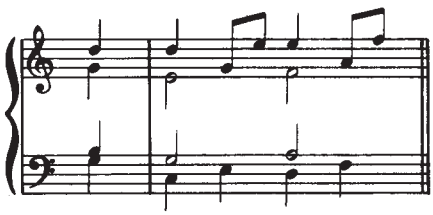


(b) *(c)*



resolutions transferred.

Especially with the 9-8 suspension, where the tone of resolution is already sounding in another register, composers sometimes leave out the resolution altogether. Example 22-29 illustrates.

22-29 *elided resolutions*

resolutions omitted.
9 9

23. *Implied Suspensions.* The ability of tonal melody—especially in instrumental style—to suggest two or more lines creates the possibility for *implied* suspensions. Such suspensions are not literally present, but they would be if the implied polyphony were actually realized. Implied suspensions occur frequently in Bach's music. Performers should watch for them; they are not always easy to recognize, but bringing them out is often a necessary part of shaping Bach's complex melodic lines. Example 22-30 quotes the subject of the same fugue illustrated in Example 22-28; the reduction shows the implied suspensions.

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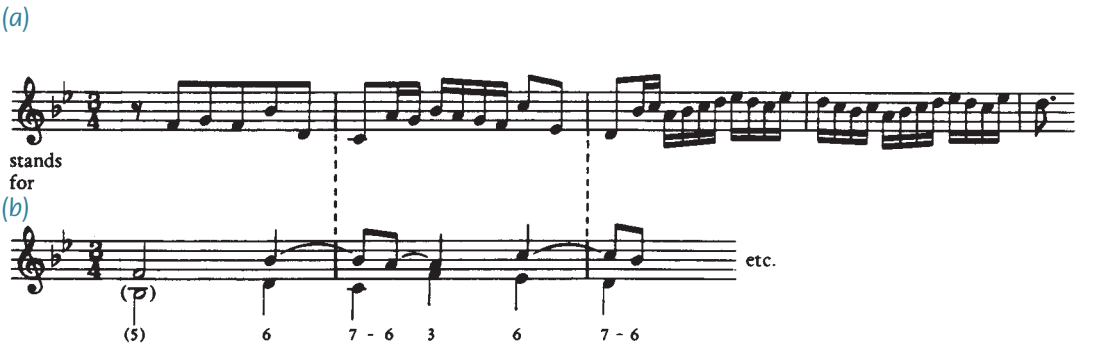
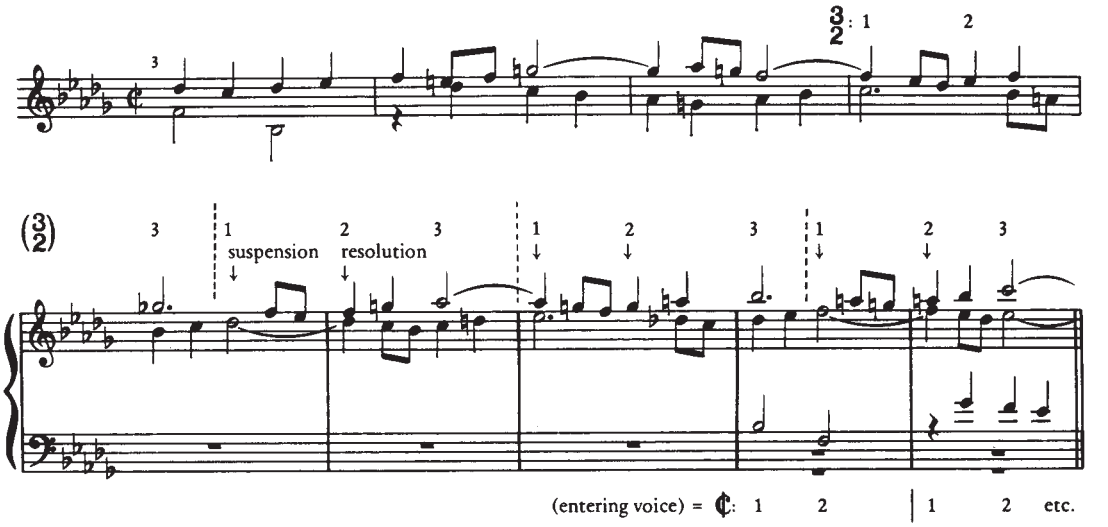
22-30 *Bach, Well-Tempered Clavier* I, Fugue 21

As we know, the 7ths of seventh chords often result from suspensions. The presence of implied suspensions creates the possibility of triads that actually sound like seventh chords. This is what happens in Example 17-1, where the ear retains E♭, D, and C through the following triads, thereby transforming them into seventh chords.

24. *Suspensions on Weak Beats.* Occasionally, suspensions fall, or seem to fall, on weaker beats than their resolutions do. This, of course, contradicts the basic metric rule governing the suspension. Sometimes this exception is apparent rather than real, for a composer can change the meter temporarily without indicating the change through the manner of notation. An episode in Bach's Fugue in B♭ minor (*WTC* I) contains some 4-3 suspensions with the 4ths, seemingly, on weaker beats than the 3rds (Example 22-31). What actually happens here, however, is that the meter temporarily shifts to $\frac{3}{2}$; in the new meter, the suspensions are stronger than their resolutions. Note that at the entrance of the third voice, the two meters go on simultaneously for a moment.

22-31 *Bach, Well-Tempered Clavier* I, Fugue 22



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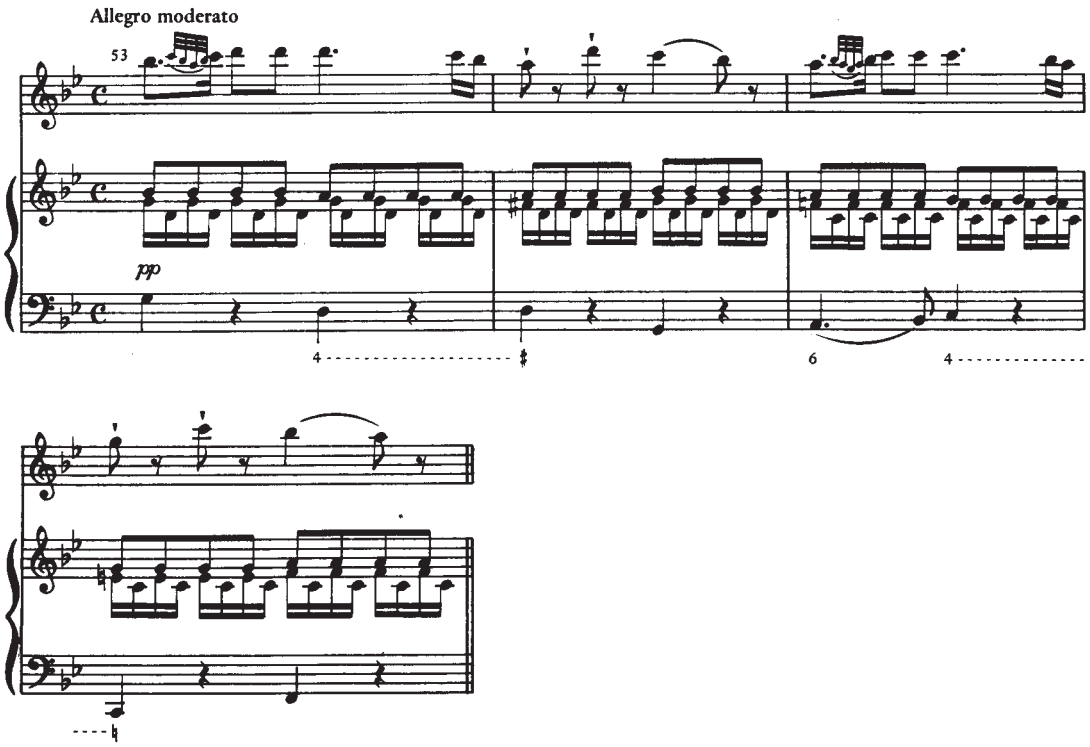
In Example 22-32, however, there is no change of meter. The 4ths of the 4-3's, therefore, really fall on metrically weaker beats than the 3rds. Within each two-bar group, there is a strong rhythmic emphasis on the second half of the first bar. The emphasis arises out of two factors in combination: the change of harmony and the long, high note in the melody. These produce a single rhythmic accent that conflicts with the meter rather than a consistent pattern of accentuation (as in the Bach) that sets up a new meter. The suspensions fall on beats that are rhythmically strong, though metrically weak.

22-32 *Mozart, Violin Sonata, K. 378, I*



Anticipations

25. Rhythmic Origin. The anticipation might be called the opposite of the suspension. Also a tone rhythmically displaced, it appears *prematurely* (rather than being delayed or extended, like the suspension) and it must come on a *weaker* beat or part of the beat than the tone it anticipates. The anticipation is not as important as the suspension, and it does not form the basis of so many significant compositional elaborations. It appears most characteristically in the soprano voice at cadences or other places where the next melodic tone is highly predictable. Bringing in a predictable tone earlier than expected can create a slight surprise and add to the listener's interest. Example 22-33 illustrates; review also the discussion of the anticipation as an ornamental idiom in strict counterpoint in the section on fifth species in Unit 5.

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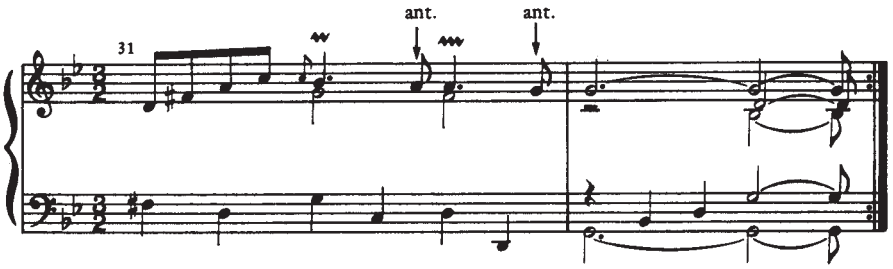
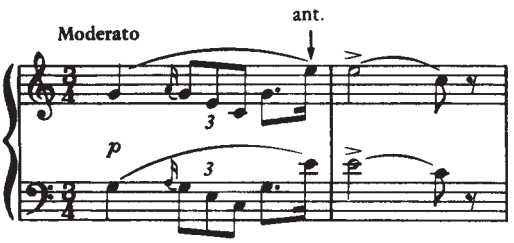
22-33 *Bach, English Suite No. 3, Courante*



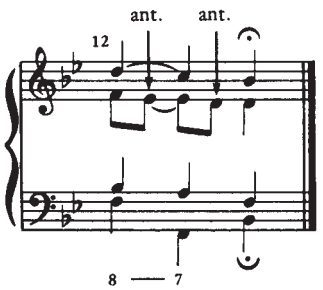
Dissonant anticipations usually enter by step. However, a traditional vocal ornament, the *portamento,* often involves a leap into an anticipation—usually a consonant one—with a slide *(glissando)* partly filling in the leap. Composers frequently simulated the effect of this ornament in their instrumental music, as in Example 22-34. Note that a consonant anticipation could be understood as a chordal skip. If, however, it produces the effect of a tone entering "too early," thinking of it as an anticipation is truer to its sound and meaning.

22-34 *Schubert, Moment Musical, D. 780, Op. 94/1*



Anticipations do not occur as often in the inner voices or bass as in the soprano. When they do, they usually form a series of two or more anticipations, as in Example 22-35. This excerpt shows another important possibility: tying the anticipation to its resolution.

22-35 *Bach, Chorale 272*



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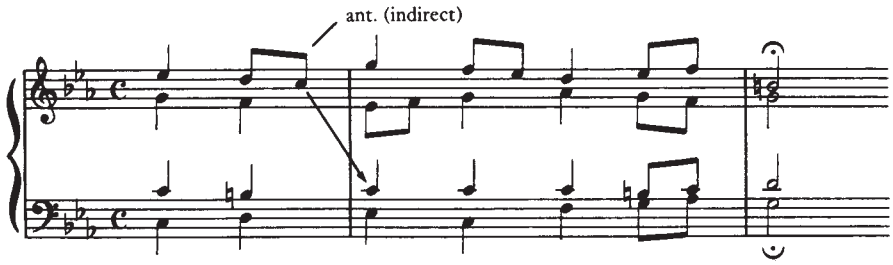
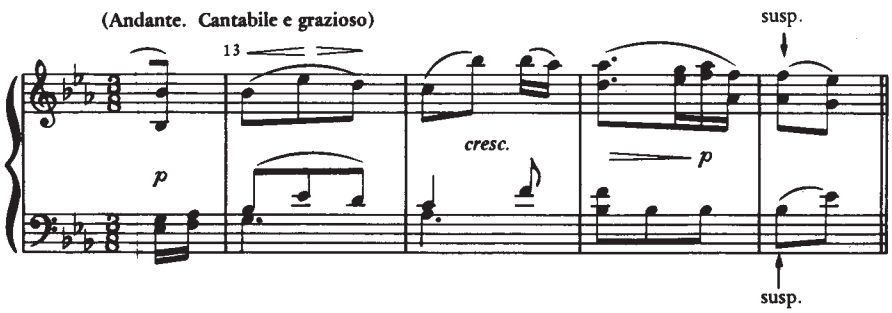
Like the suspension, the anticipation sometimes occurs in indirect form; that is, it can anticipate a tone of the next chord, but one that will appear in another voice (Example 22-36).

22-36 *Bach, Chorale 149*



26. *Entire Chords Suspended or Anticipated.* Sometimes an entire chord, not just one or more tones, appears during the span of time belonging to the following or preceding chord. The psychological effect of such chords is very much like that of suspensions and anticipations; the listener feels a need for resolution even though there is often no literal dissonance. In the Beethoven excerpt of Example 22-37, we expect tonic harmony on the last downbeat; the repeated V^7, therefore, sounds like a suspension.

22-37 *Beethoven, Bagatelle, Op. 126/3*



27. *Forbidden Parallel Motion.* Unless there is motion in another voice, suspensions and anticipations will not cause parallel 5ths and octaves. In his chorales, Bach frequently lets a cadential anticipation in the soprano create 5ths with a passing 7th in one of the inner voices, as in Example 22-38. Here, the basic voice leading does *not* contain parallel 5ths. These 5ths involve purely decorative elements and create no ill effect.

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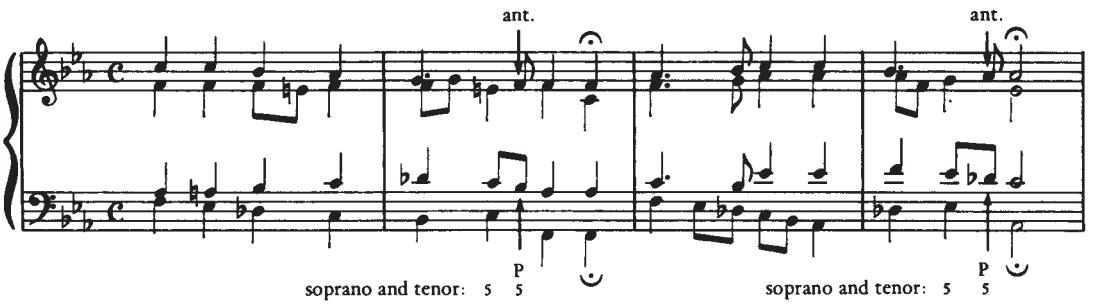
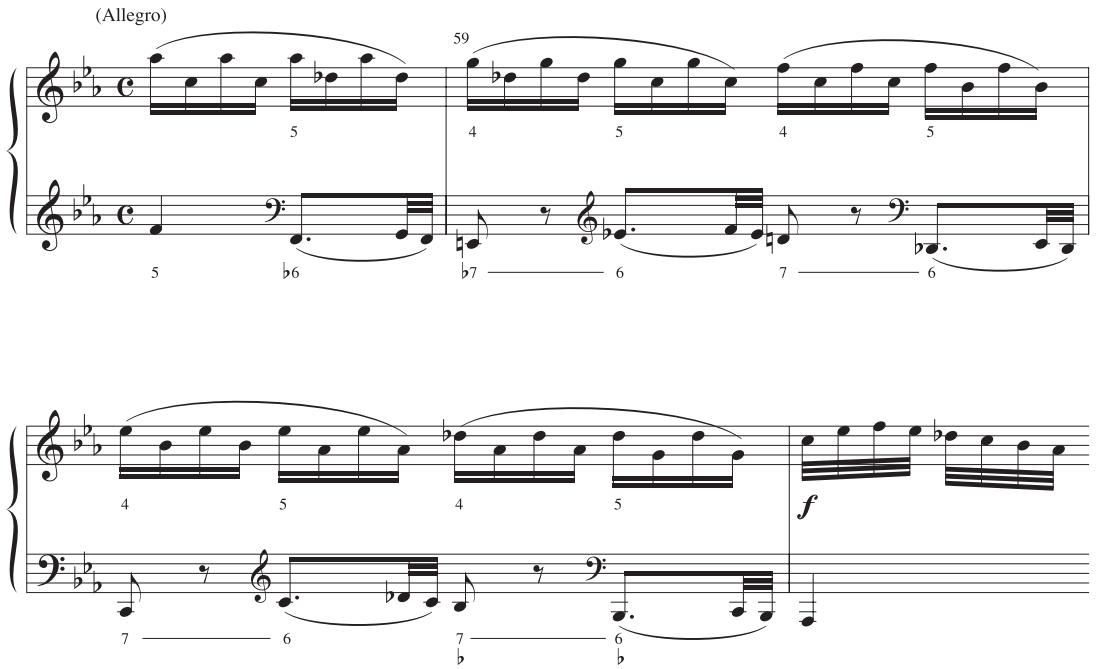
22-38 *anticipation and passing tone create apparent 5ths*

Bach, Chorale 8



Suspensions and anticipations can be very effective in breaking up parallel 5ths. This is because they displace the underlying voice leading and convert parallel into oblique motion. Thus, Example 22-39 contains a series of 7-6 suspensions in the middle voice against parallel 10ths between the outer voices. The voice leading without the suspensions would consist of a series of $\frac{6}{3}$ chords with 10ths between the outer voices—an impossible progression because of the parallel 5ths between the upper voices (review Unit 19). The suspensions transform the parallel motion into oblique motion and create perfectly good voice leading. 7-6 suspensions are very frequently used in just this way. In Example 22-39, incidentally, notice how the chromatic passing tones in the bass color the suspension series (Example 22-39b).

22-39 *Haydn, Piano Sonata, Hob. XVI/52, I*

(a)

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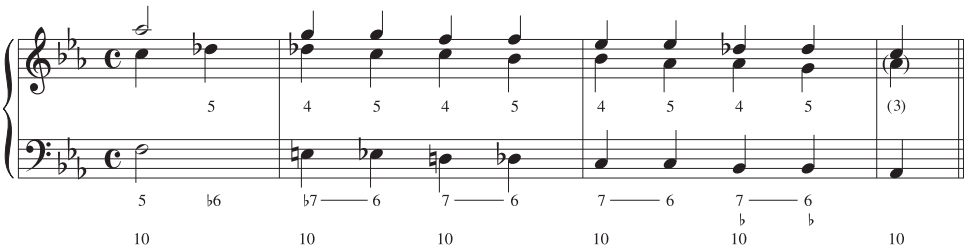
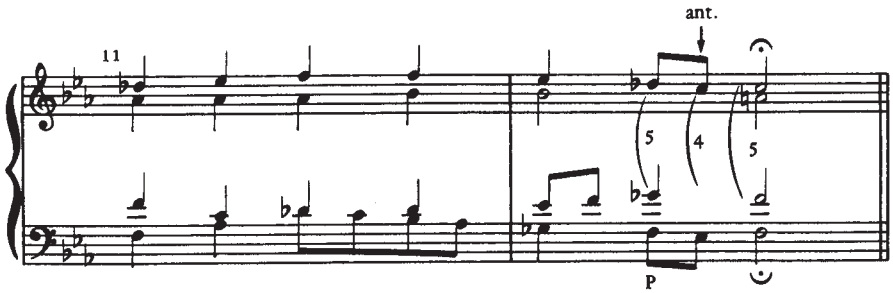
(b) reduction



Example 22-40 shows an anticipation functioning as a voice-leading corrective—breaking up 5ths in a progression leading to a cadential V.

22-40 *Bach, Chorale 113*

The Pedal Point

28. *Compositional Function.* The pedal point (or organ point) consists of a tone sustained through chord changes or contrapuntal activity (or both) in other voices. The term derives from organ playing; the organist's foot sustains a tone on one of the pedals while her hands play on the manuals. Pedal points typically occur in the bass, though top-voice or inner-voice pedals are not uncommon. Double or triple pedals (in several voices at once) are still another possibility.

In a sense, the pedal point functions as the opposite of such elements of figuration as the passing and the neighboring tone. Instead of animating a slower moving substructure through relatively quick note values, the pedal point remains static while the other voices move. When it occurs in the bass,

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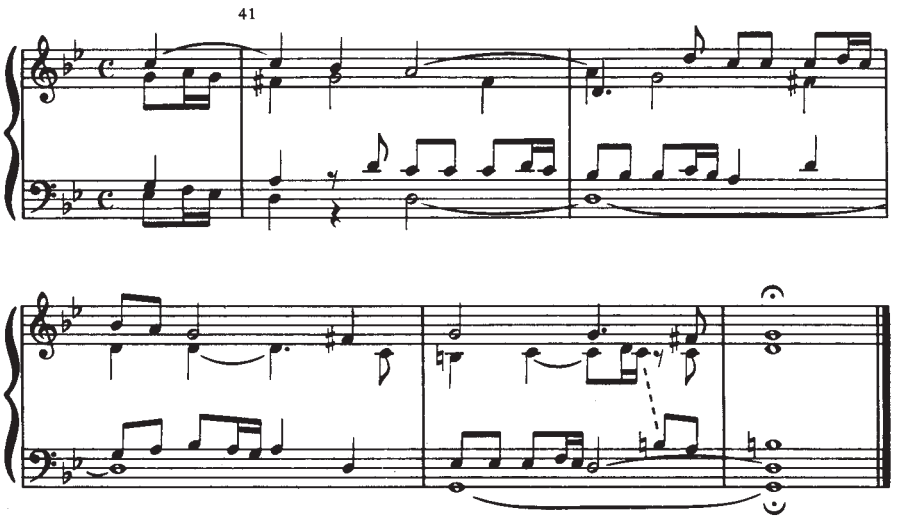
a pedal point can be one of the strongest aids to extending or prolonging a chord, for the bass tone (almost always the root of the basic chord) persists audibly through the transient, subordinate chords above it. The most important pedal points are those that prolong the most important harmonies: I and V. Tonic pedals occur frequently at beginnings (as in Example 21-11) and endings. Dominant pedals are almost equally frequent before a final tonic or before a tonic that comes at a recapitulation of the opening material; they can also occur at other points. Example 22-41 illustrates a cadential V and final I expanded by pedal points.

22-41 *Bach, Little Fugue for Organ, No. 6, BWV 558*

Sometimes a pedal point supports a single chord prolonged by figuration or imitative counterpoint. Quite often, however, the motion of the upper voices produces a succession of chords (Examples 21-11 and 22-41). Some of these chords may be dissonant against the bass; this is perfectly good if the chord succession and voice leading make sense. Leaps involving dissonances against the bass are also good; they need not be "resolved." Dissonances among the upper parts themselves, however, must be prepared and resolved normally. Most often a pedal point begins and ends with a statement of the chord it prolongs; the progression I-IV-V^7-I is particularly frequent over a tonic pedal. However, this is not always the case. In Example 22-42, the bass tone, at first the root of I, persists into a $\frac{4}{2}$ chord that effects a modulation to V (compare Example 15-1, bar 6).

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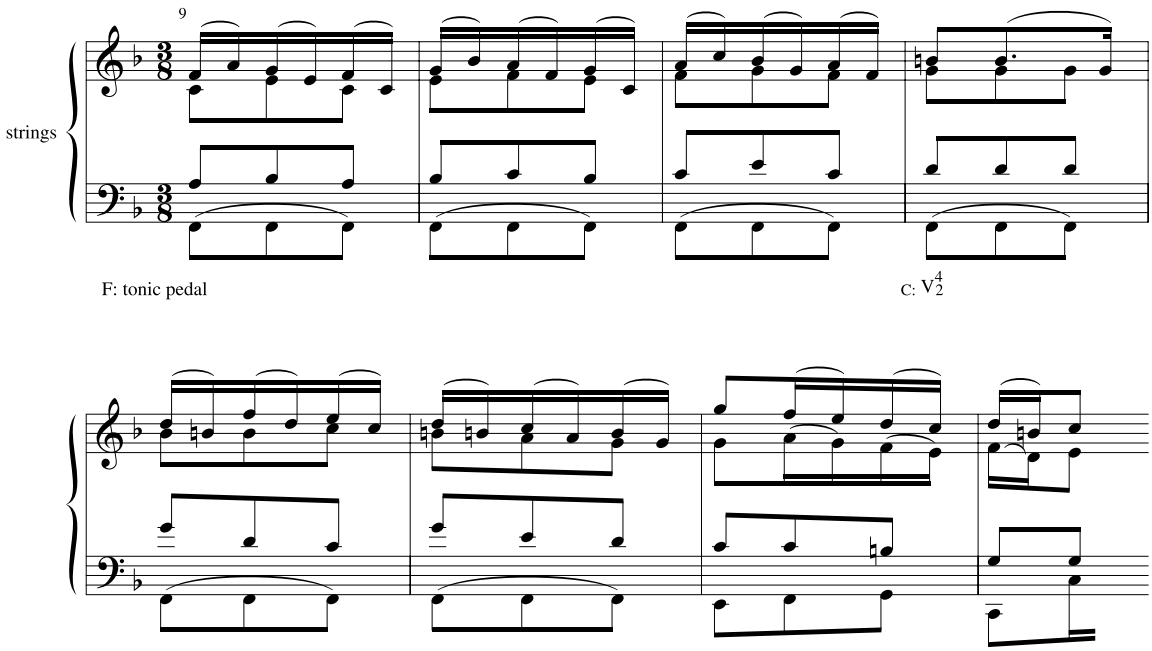
22-42 *Bach, Brandenburg Concerto No. 1, Polacca*

POINTS FOR REVIEW

1. Suspensions are created by syncopation or extension of the initial tone.
2. The three parts of a suspension are
   a. the preparation, which is usually consonant.
   b. the suspension proper, which is sustained or repeated from the preparation; the suspension proper is metrically strong relative to the resolution.
   c. the resolution, which is metrically weak relative to the suspension proper; the resolution is downward by step if the suspension is dissonant, and it is frequently decorated.
3. Relate unusual combinations of figured-bass numbers to one of the seven basic types to help you identify how suspensions decorate triads and seventh chords.
4. In the upper voices, the most important suspensions are
   a. 4-3 (especially on cadential V: $V^{4\text{-}3}$).
   b. 7-6.
   c. 9-8.
5. In the bass: 2-3 or 9-10 most frequently resolves to a $\frac{6}{3}$ chord (figured-bass $\frac{5}{4}$—) and sometimes to a $\frac{5}{3}$ chord (figured bass $\frac{9}{2}$, $\frac{4}{2}$, or $\frac{7}{4}$).
6. Avoid anticipating the tone of resolution, with these two exceptions:
   a. 9-8 (Example 22-12d).
   b. $\frac{7}{4}$ (Example 22-13c).
7. In upper-voice suspensions with moving bass, the most important figures are 9-6 and 9-10.

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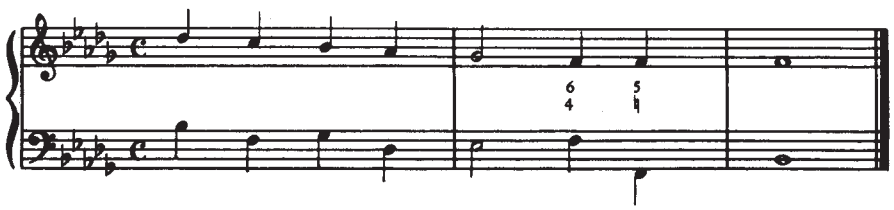
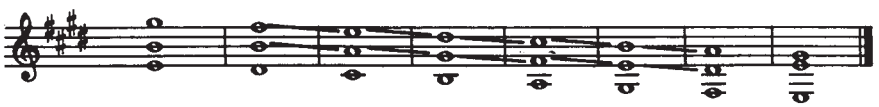
8. The most important suspension series contains 7-6's over a descending bass. This series often begins 5-6. Outer-voice possibilities include
   a. suspensions in soprano.
   b. parallel 10ths between outer voices.
9. Sequential progressions are frequently decorated by suspensions (Examples 22-18 through 22-21).
10. Exceptional treatment of suspensions includes
    a. indirect suspension (Example 22-22).
    b. suspensions with dissonant preparation (Example 22-23).
    c. upward resolution of dissonance (usually to Î; Examples 22-24 and 22-25).
    d. delayed resolution (Example 22-27).
    e. transferred resolution (Example 22-28).
    f. elided resolution (Example 22-29).
    g. suspension on a weak beat (Examples 22-31 and 22-32).
11. Anticipations usually occur in the soprano, especially at cadences. They are metrically weaker than the anticipated main tone.
12. Exceptional treatment of the anticipation is the indirect anticipation (Example 22-36).
13. Suspensions and anticipations can break up parallel 5ths by changing parallel motion to oblique.
14. The pedal point is most commonly used in the bass to extend I or V; it usually begins and ends with the main chord.
15. Dissonant chords are possible against the pedal point if the chord succession and voice leading make sense.

EXERCISES

1. Preliminaries.
   a. Add inner voices. Include a chain or series of suspensions in one of them.

   b. Without adding a fourth voice, add suspensions to break up the parallel 5ths.



   c. Write the corrected progression above in four voices, adding a tenor.
   d. Write three cadences, each in a different key, decorated with anticipations.

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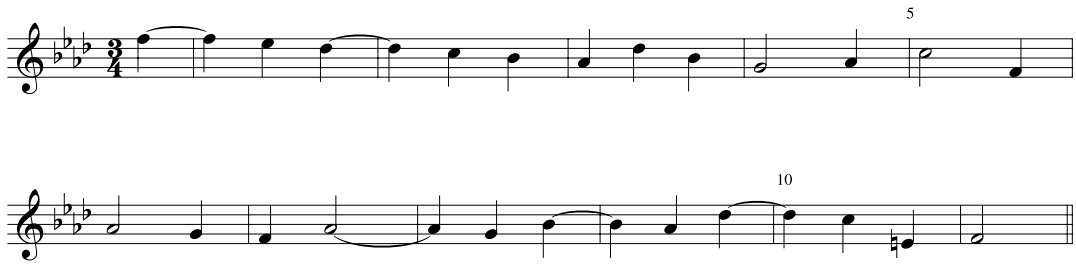
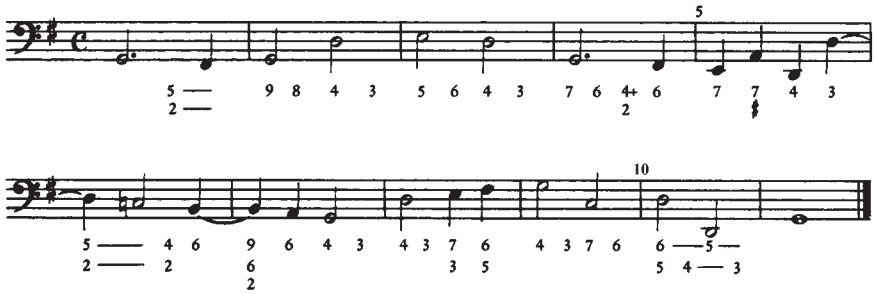
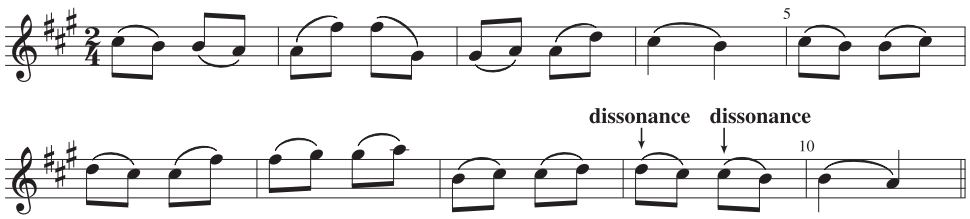
2. Melody. The tied notes in the soprano represent suspensions. Measures 5–6 should contain suspensions in the bass.

MINDTAP

Guided Exercises

This exercise's step-by-step audiovisual solution is available on MindTap.

3. Figured bass. An important point in this exercise is getting a good soprano line. A certain amount of trial and error may be necessary to achieve this. Occasional upward skips will very much help the line.

4. Melody. This melody is full of anticipations. Maintain a quarter-note rhythm in the bass for the most part.



5. Using the "theme" of Exercise 4, Unit 21, write at least three additional variations that include suspensions or anticipations.

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PART V

Dissonance and Chromaticism I

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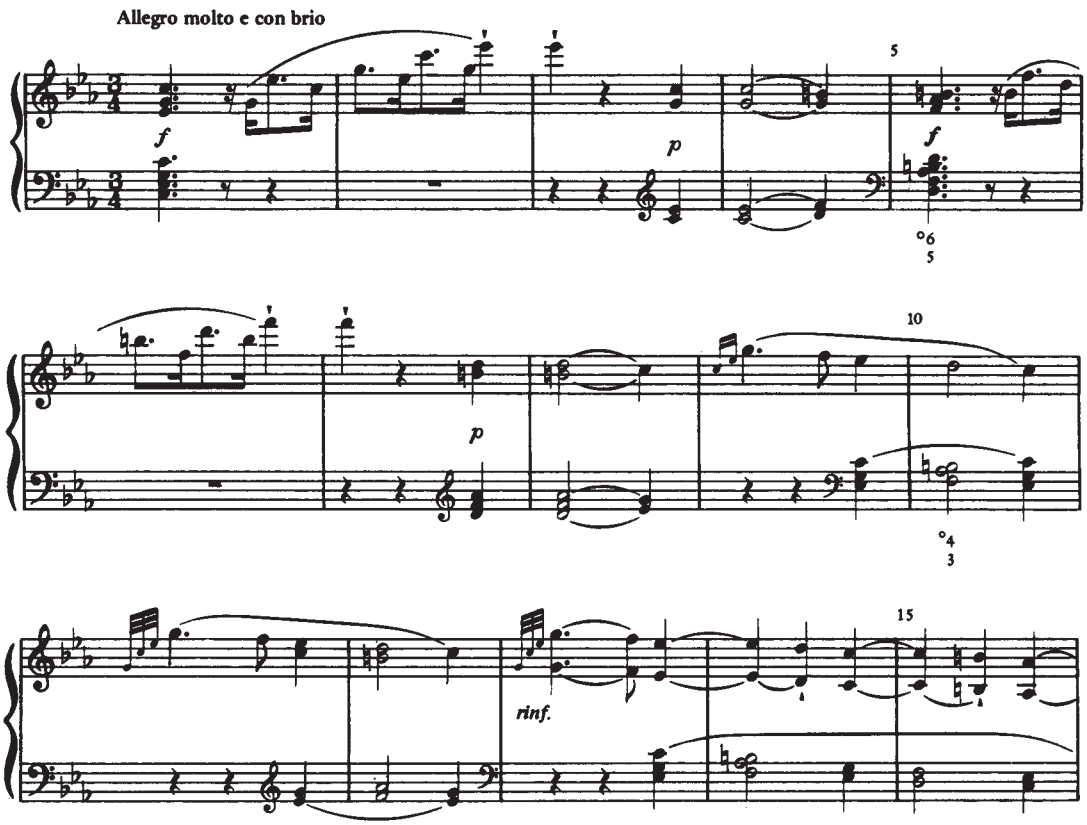
UNIT

23

Leading-Tone Seventh Chords

23-1 *Beethoven, Piano Sonata, Op. 10/1, I*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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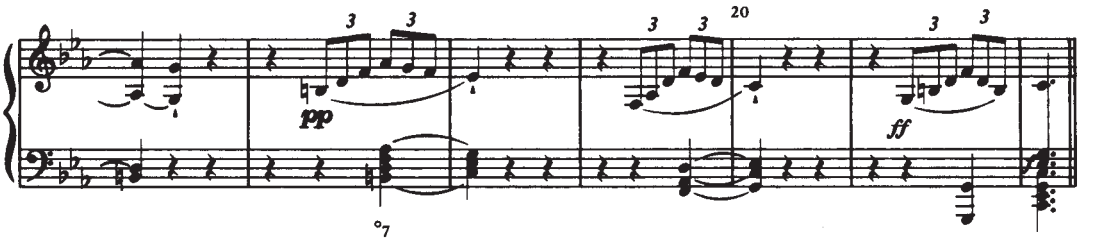
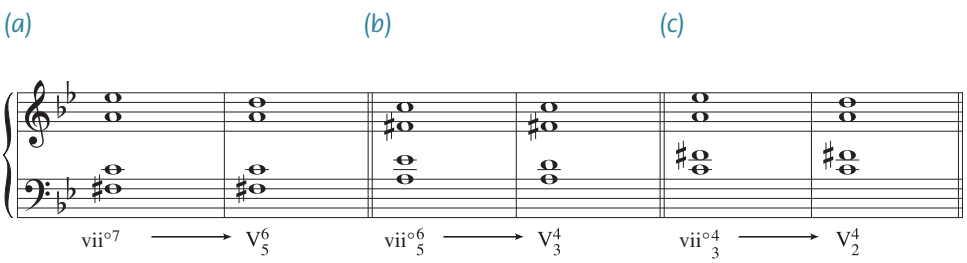


The Diminished Seventh Chord

1. vii°7 *in Minor.* Example 23-1, the beginning of a Beethoven Piano Sonata, provides an excellent illustration for the leading-tone seventh chord in minor. This chord is based on the characteristic tones—♯$\hat{7}$ and ♭$\hat{6}$—of the harmonic form of the minor scale (in the Beethoven, B♮ and A♭). The interval between these tones is a diminished 7th; the chord, therefore, is called a *diminished seventh chord* (convenient symbol °7). The leading-tone seventh chord in minor (vii°7) is a particularly intense and unstable sonority, strongly directed toward i. ♯$\hat{7}$ and $\hat{6}$ in minor are active in the direction of $\hat{1}$ and $\hat{5}$—both elements of tonic harmony. And the chord contains an unusually large number of dissonant intervals: a diminished 7th and diminished 5th from the bass, and a diminished 5th or augmented 4th between the 3rd and 7th ($\hat{2}$ and $\hat{6}$). All these dissonances tend to resolve to intervals belonging to the tonic chord.

As the figures below the bass indicate, Example 23-1 contains three different positions of this chord: $^{\circ 6}_{5}$, $^{\circ 4}_{3}$, and °7. These chords are closely related to the inversions of V7; in fact, we might think of them as harmonic equivalents. As Example 23-2 shows, we can transform the various inversions of V7 into corresponding positions of vii°7 merely by replacing $\hat{5}$ with $\hat{6}$. Despite these similarities, the various positions of vii°7 *sound* very different from the inversions of V7, as you can hear by playing Example 23-1 and substituting inversions of V7 for the diminished seventh chords.

23-2



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A NOTE ON SYMBOLS AND FIGURED BASS

For the sake of convenience in analyses, we will often use the symbol ° or ø combined with figured-bass numerals (without Roman numerals) to indicate diminished or half-diminished seventh chords. In such cases (as in Example 23-1), the accidentals that would be required to produce the specified quality of the chord are *not* given. In a figured bass—or in a figured-bass exercise—where the symbol ° or ø is not used, the figures would have to be modified by the appropriate accidentals if °7 or ø7 is in inversion. Thus, in Example 23-1, the $\frac{6}{5}$ of bar 5 would be figured $\frac{♮6}{5}$, and the $\frac{4}{3}$ of bar 10 would be figured $\frac{♮4}{3}$; on the other hand, the figure for the root-position °7 of bar 17 would not require accidentals because it is the bass tone itself that is modified.

2. **Contrapuntal Functions.** The easiest way to understand how the various positions of the diminished seventh chord function is to relate them to the inversions of V^7 that they resemble. You can see some typical functions in Example 23-1. Thus, vii°7, like V^6_5, is based on the lower neighbor of i (bar 17). The vii°$\frac{6}{5}$, like V^4_3, is a passing chord connecting i and i^6 (bars 4–8). And vii°$\frac{4}{3}$, like V^4_2, is built on the upper neighbor of i^6 (bars 10 and 12). The $\frac{4}{2}$ position, not present in Example 23-1 and to be discussed later, is the only one that does not correspond to an inversion of V^7.

3. **Resolving Dissonant Intervals.** As in other seventh chords, the 7th resolves by stepwise descent (to the 5th of i). The leading tone moves up to the tonic. Therefore, the interval of the diminished 7th resolves inward to a perfect 5th; the augmented 2nd (which often occurs in inverted positions) resolves outward to a perfect 4th (Example 23-3).

23-3 *resolving d7 and A2*

The vii°7 and its inversions contain two diminished 5ths—one between ♯$\hat{7}$ and $\hat{4}$ and another between $\hat{2}$ and $\hat{6}$; depending on inversion and voicing, either or both of these diminished 5ths might be expressed as an augmented 4th. In all positions of vii°7, a diminished 5th or augmented 4th *that involves the bass* resolves regularly (the diminished 5th inward to a 3rd, the augmented 4th outward to a 6th). Between upper voices, diminished 5ths also tend to resolve normally, but augmented 4ths often resolve irregularly, usually in similar motion to a perfect 4th.

4. **Resolving vii°7.** Example 23-4 shows some voice-leading possibilities for the root position. In Example 23-4a, all the dissonant intervals resolve regularly, producing a tonic chord with doubled 3rd. In Example 23-4b a doubled root

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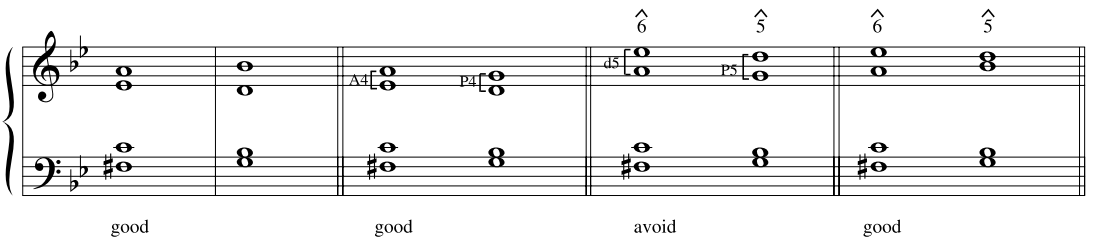
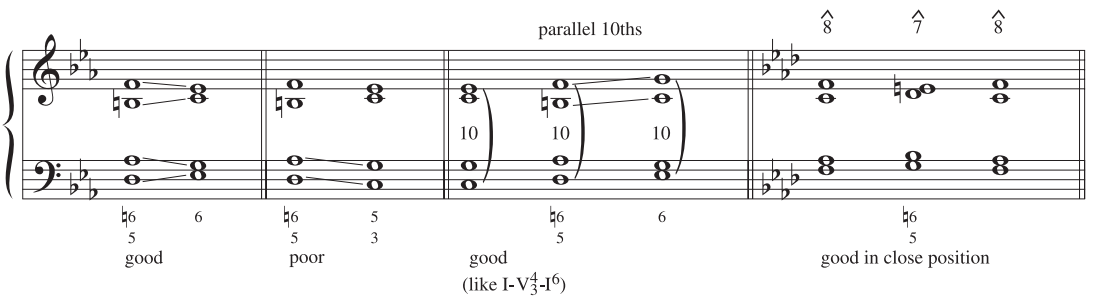
is achieved by resolving irregularly the augmented 4th between soprano and alto; both voices go in similar motion to a perfect 4th. This strategy permits the soprano progression $\hat{2}$-$\hat{1}$ and is also useful where the doubled 3rd might sound out of place. The "improper" resolution of the upper-voice dissonance is hardly noticeable. *But, if the upper dissonance forms a diminished 5th (Example 23-4c), the similar motion that follows creates an obtrusive set of hidden 5ths; avoid this voice leading.* Note: The treatment of upper-voice diminished 5ths and augmented 4ths relates to the discussion of vii^{o6} in Unit 8, Section 11. Review!

23-4 *resolving vii°7*



5. *Resolving vii°$\frac{6}{5}$.* Example 23-5 illustrates the resolution of vii°$\frac{6}{5}$. The bass tone, $\hat{2}$, ascends to $\hat{3}$ if the lower diminished 5th resolves regularly; as a consequence, vii°$\frac{6}{5}$ normally moves to i^6 rather than to i$\frac{5}{3}$ (Examples 23-5a and b). Examples 23-5c and d show two frequent exceptions to normal dissonance treatment. In Example c, where the outer voices move in parallel 10ths, the upper diminished 5th moves to a perfect 5th, just as with V$\frac{4}{3}$. Example 23-5d shows a possibility for moving to i$\frac{5}{3}$ rather than to the usual i^6; the vii°$\frac{6}{5}$ functions as a neighboring chord. This progression works best with the soprano motion—and in *close position;* the hidden 5ths are softened by the parallel 3rds above the bass and the contrary motion of the outer voices.

23-5 *resolving vii°$\frac{6}{5}$*



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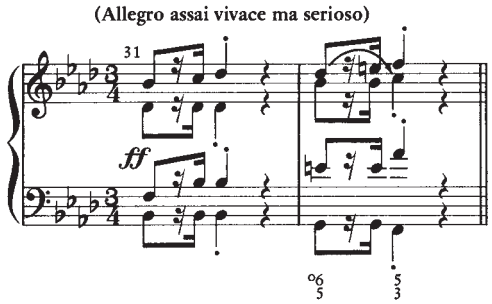
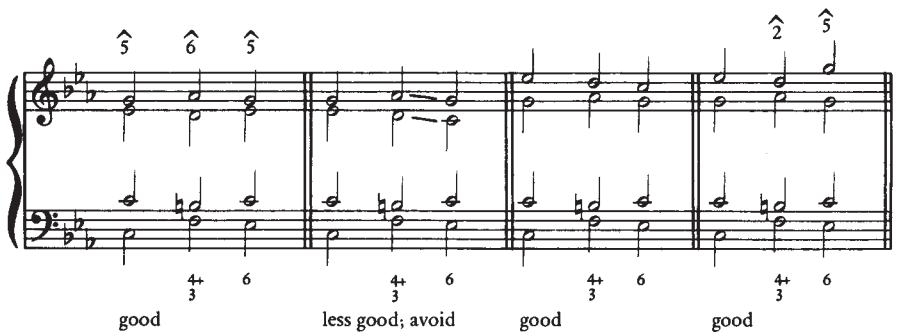
The complexities of instrumental figuration can provide additional opportunities for leading vii°$^{6}_{5}$ effectively to i$^{5}_{3}$. In a passage from a Beethoven string quartet (Example 23-6), the downward resolution of the first violin's $\hat{6}$ (D♭) is taken over by the second violin in the same register, allowing the top voice to move up to $\hat{8}$ and forestalling hidden 5ths with the bass line. (This progression carries almost to an extreme the technique of the transferred resolution—there are two in addition to the one just mentioned. Can you identify them?)

23-6 *Beethoven, String Quartet, Op. 95, III*

6. *Resolving vii°$^{4}_{3}$.* Example 23-7 illustrates the resolution of vii°$^{4}_{3}$. It closely resembles that of its analogue V$^{4}_{2}$; $\hat{4}$ in the bass descends to $\hat{3}$, producing a resolution to i^{6}. As in the other positions, the dissonance between $\hat{2}$ and $\hat{6}$ will resolve normally if it forms a diminished 5th (Example 23-7a). If it forms an augmented 4th, $\hat{2}$ may move up to $\hat{3}$, down to $\hat{1}$ (Example 23-7c), or up to $\hat{5}$ (Example 23-7d); this last possibility is as characteristic of vii°$^{4}_{3}$ as it is of V$^{4}_{2}$.

23-7 *resolving vii°$^{4}_{3}$*

(a) *(b)* *(c)* *(d)*

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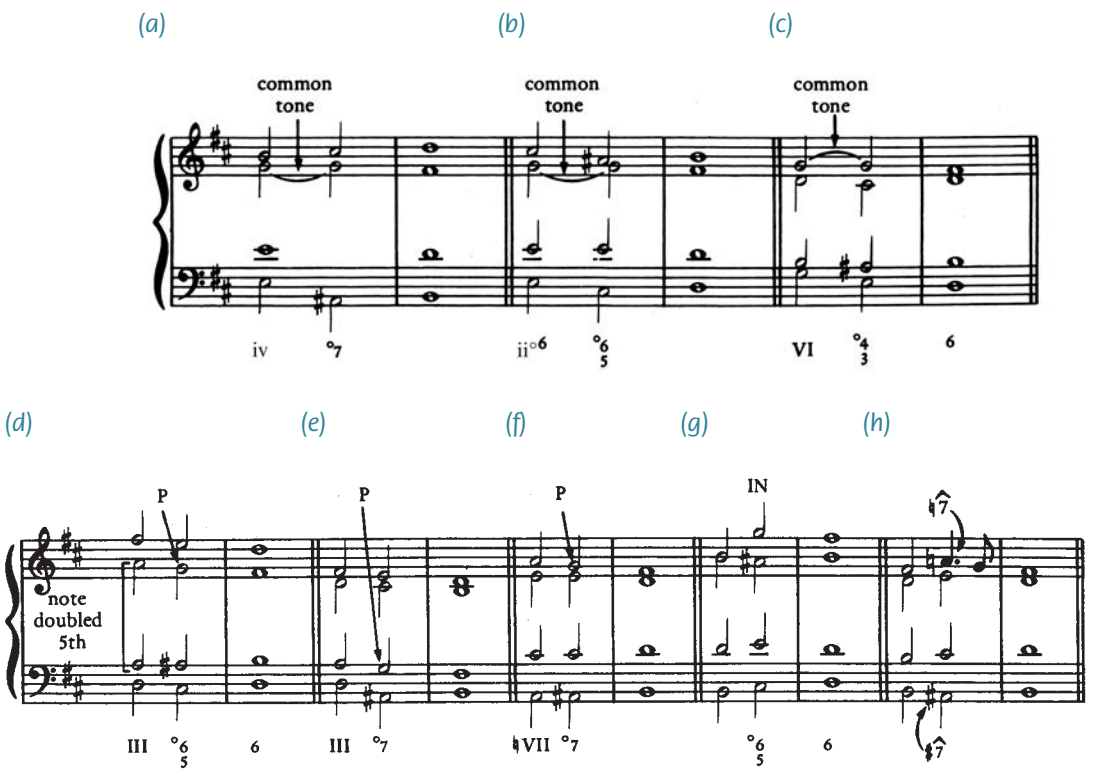
RESOLVING vii°7 AND ITS INVERSIONS

- The d7 must resolve to P5 (A2 to P4); in other words, $\hat{6}$ in minor must descend to $\hat{5}$.
- All dissonances involving the bass must resolve.
- Between upper voices, d5 tends to resolve normally, but A4 may resolve irregularly, usually to P4.

7. *Approaching vii°7.* The 7th of the °7 is best introduced in one of three ways: as a neighbor, as a common tone, or as a passing tone. If vii°7 comes from a tonic chord, as in Examples 23-1 and 23-7, the 7th will function as an upper neighbor to $\hat{5}$. In fact, harmonizing $\hat{6}$ in the soprano progression $\hat{5}$-$\hat{6}$-$\hat{5}$ is a particularly characteristic and important function of the diminished seventh chord (Example 23-7a). If vii°7 comes from a position of iv, ii°, or VI (Examples 23-8a–c), the 7th is prepared as a common tone. Coming from III or ♭VII, the 7th enters as a passing tone (Examples 23-8d–f). As with V7, the 7th will sometimes enter unprepared as an incomplete neighbor (Example 23-8g). Sometimes an embellishing ♭$\hat{7}$ decorates $\hat{6}$, creating a transitory clash with ♯$\hat{7}$. Coming on the strong part of the beat, this powerful dissonance can produce a very intense and poignant effect (Example 23-8h).

23-8 *approaching vii°7*



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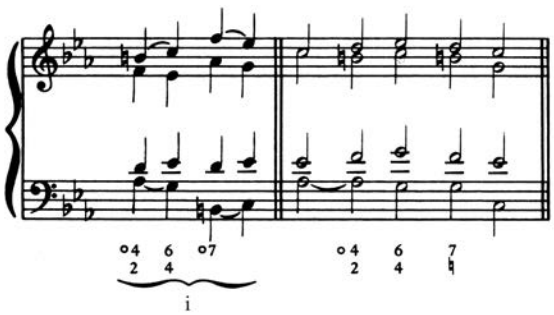
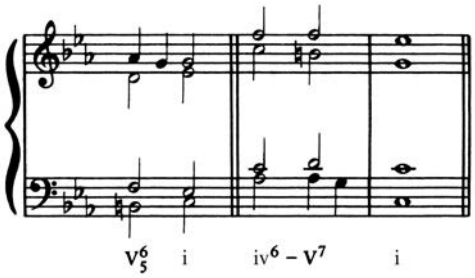
8. The $\frac{4}{2}$ Position. Unlike the other positions of vii°7, vii°$\frac{4}{2}$ does not relate closely to an inversion of V7. Resolving the augmented 2nd (or 9th) from the bass to a perfect 4th produces a $\frac{6}{4}$ chord. Example 23-9a shows resolution to a consonant $\frac{6}{4}$. In Example 23-9b, the °$\frac{4}{2}$ comes about through a passing and neighboring motion in the upper voices leading to a *cadential* $\frac{6}{4}$. Strictly speaking, in this situation the upper voices, rather than the chordal 7th ($\hat{6}$), cause the dissonance. This type of seventh chord will be discussed more fully in Unit 25. Because of the problematic nature of the $\frac{6}{4}$ as "goal," the $\frac{4}{2}$ position occurs much less frequently than any of the others do.

9. vii°7 Associated with V7. Sometimes °7 results from a neighbor or suspension resolving to the root of V7 (Example 23-10). In such cases, one does not hear a real change of harmony; V7 is the functional chord and °7 a contrapuntally derived embellishment. This is so even if °7 lasts for a very long time.* Many seeming examples of °$\frac{4}{2}$ are really embellishments of V7 (Example 23-10b).

23-9 *resolving* vii°$\frac{4}{2}$

(a) *(b)*

23-10 *vii°7 embellishing V7*

(a) *(b)*



*As, for example, in the development section of the first movement of Beethoven's "Appassionata" Sonata, bars 123–131.

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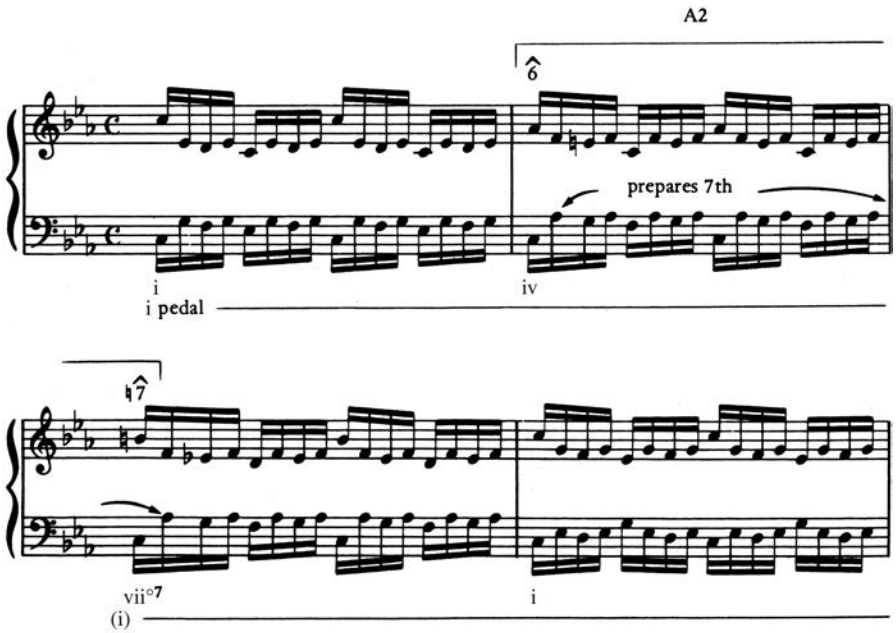
10. vii°7 over a Tonic Pedal. The vii°7 chord often appears over a tonic pedal, usually taking the place of V^7 in the progression i-iv-vii°7(=V^7)-i (Example 23-11).

23-11 *Bach, Well-Tempered Clavier I, Prelude 2*

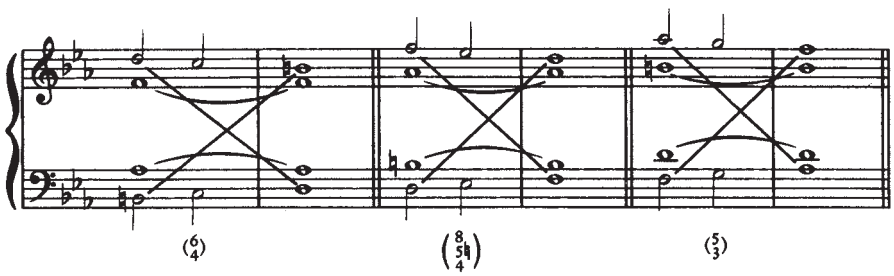


11. The Melodic Augmented 2nd. Passages including vii°7 sometimes contain a *melodic augmented 2nd,* usually in the soprano. The presence of this interval in the chord makes its melodic use sound less awkward. The A2 can result from an arpeggiation within vii°7; it can also appear in the course of a motion from ii°6, iv, or VI to vii°7, as in Example 23-11.

12. vii°7 Extended through Voice Exchange. A diminished seventh chord can be extended by means of the technique of voice exchange. Often, passing chords will appear between two different positions of °7, as shown in Example 23-12.

23-12 *voice exchange extending vii°7*

(a) *(b)* *(c)*



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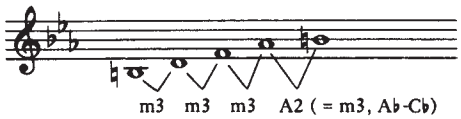
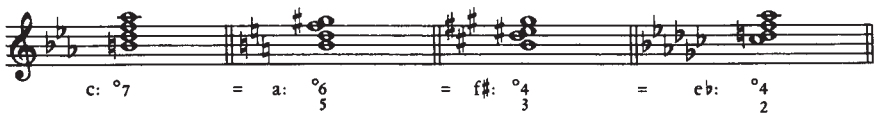
13. *Enharmonic Relationships.* In close position, °7 consists of minor 3rds between adjacent voices. Adding an octave above the bass makes an augmented 2nd, enharmonically the same as a minor 3rd (Example 23-13).

23-13 *m3's and A2*



The diminished seventh chord, therefore, divides the octave into equal, or enharmonically equivalent, intervals. As a result, the inversions of °7 sound like one another and like the root position, and each position of °7 is, out of context, indistinguishable from a different position in some other key. This ambiguity is very important in chromatic textures and, especially, in modulation, as we explain later. Example 23-14 shows how a diminished seventh chord can be reinterpreted enharmonically.

23-14 *°7 reinterpreted enharmonically*

The Half-Diminished Seventh Chord

14. *vii^{ø7} in Major.* In the major mode, vii^{ø7} is a half-diminished seventh chord (minor 3rd, diminished 5th, minor 7th—like ii^{ø7} in minor). The vii^{ø7} chord typically occurs as a neighboring chord to I (Example 23-15) or as an extension of dominant harmony (Example 23-18)—frequently with a soprano progression $\hat{5}$-$\hat{6}$-$\hat{5}$. The vii^{ø7} chord cannot occur in minor, for the downward resolution of its 7th contradicts the upward tendency of $\sharp\hat{6}$.

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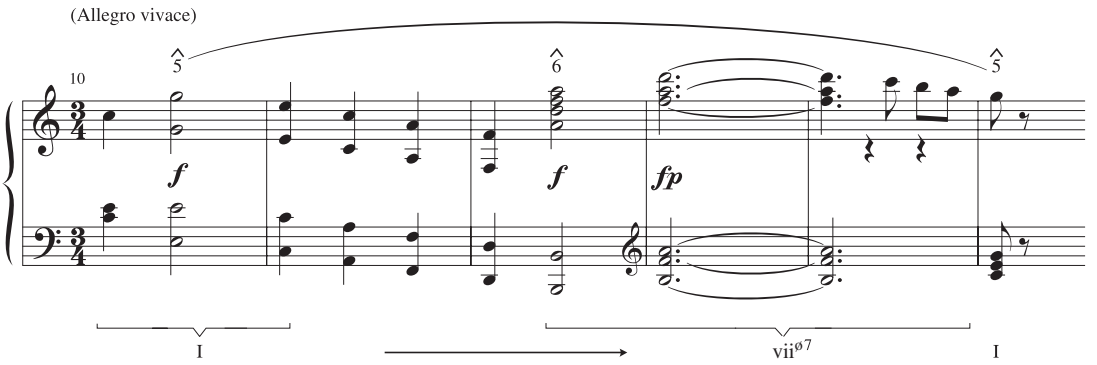
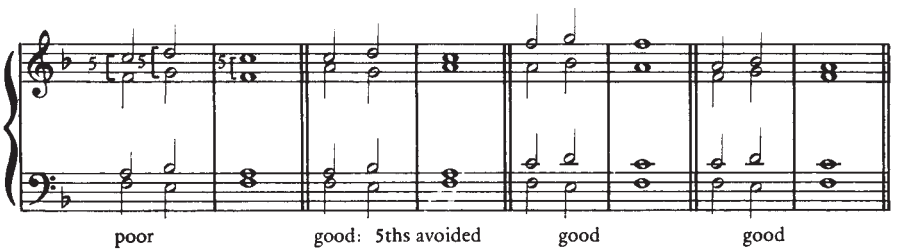
23-15 *Schubert, Piano Sonata, D. 845, Op. 42, III*



Moving between I and vii^{ø7} can easily lead to parallel 5ths, especially if the 7th is in the soprano, by far the most frequent disposition (Example 23-16a). Example 23-16b shows how to solve this problem: double the 3rd of I. If the 7th is not in the soprano (Examples 23-16c and d), the problem of 5ths need not arise.

23-16 *avoiding parallel 5ths*

(a) *(b)* *(c)* *(d)*

15. *Inversions of vii^{ø7}.* Except for the $\frac{4}{3}$ position, $^{ø}7$ occurs much less often in inversion than does $^{\circ}7$. The vii$^{ø}\frac{4}{3}$ functions as a variant (or embellishment) of $V\frac{4}{2}$ and leads to I^6, usually with $\hat{6}$ in the soprano. Example 23-17 illustrates.

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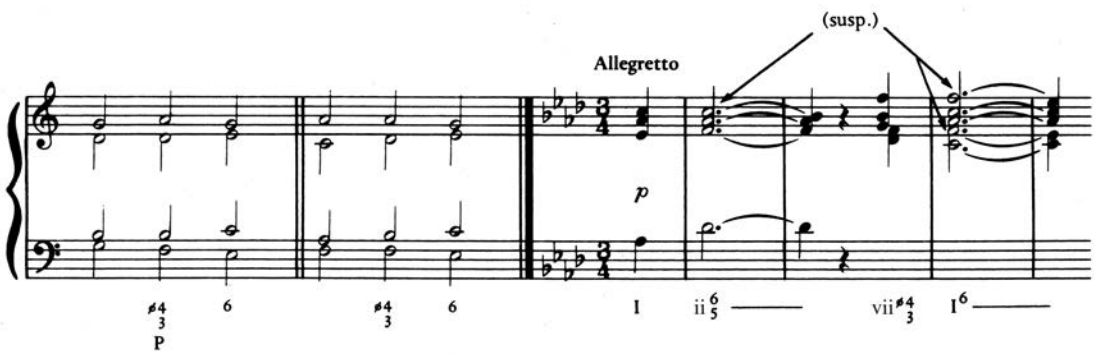
23-17 vii^{o4}_{3}

(a) (b) (c) Schubert, *Moment Musical*, D. 780, Op. 94/6

16. *Phrase Elision.* Example 23-18 illustrates a very important technique of phrase structure. The tonic chord in measure 16 is clearly the initial harmony of a new phrase, as the sudden *forte*, the change of texture, and the use of the full orchestra indicate. At the same time, that tonic stands for and replaces the goal tonic of the preceding phrase. Thus, we feel that the last measure of the earlier phrase has been *reinterpreted* as the first measure of the new phrase. Through this process of reinterpretation, a measure has been left out or *elided:* the group beginning in measure 9 has only seven measures instead of the eight it would have had if its last measure had not been usurped by the beginning of the next phrase. Such *reinterpretations* or *elisions* occur frequently as a way of joining two ideas together without an audible break between phrases. They often have a dramatic effect because the last measure—normally a weak measure—is replaced by a first measure, which is normally strong. This is a manner of overlapping two phrases that differs from the phrase overlaps we saw in Examples 13-1 and 18-1. In Example 23-18, the overlap involves the omission of a measure that would normally belong to the first phrase and a reversal of emphasis: A weak measure becomes strong. In the earlier examples (Schubert and Bach), there is no reinterpretation and the first phrase is not cut short—instead, it is extended by having its goal harmony appear only at the beginning of the next group of measures.

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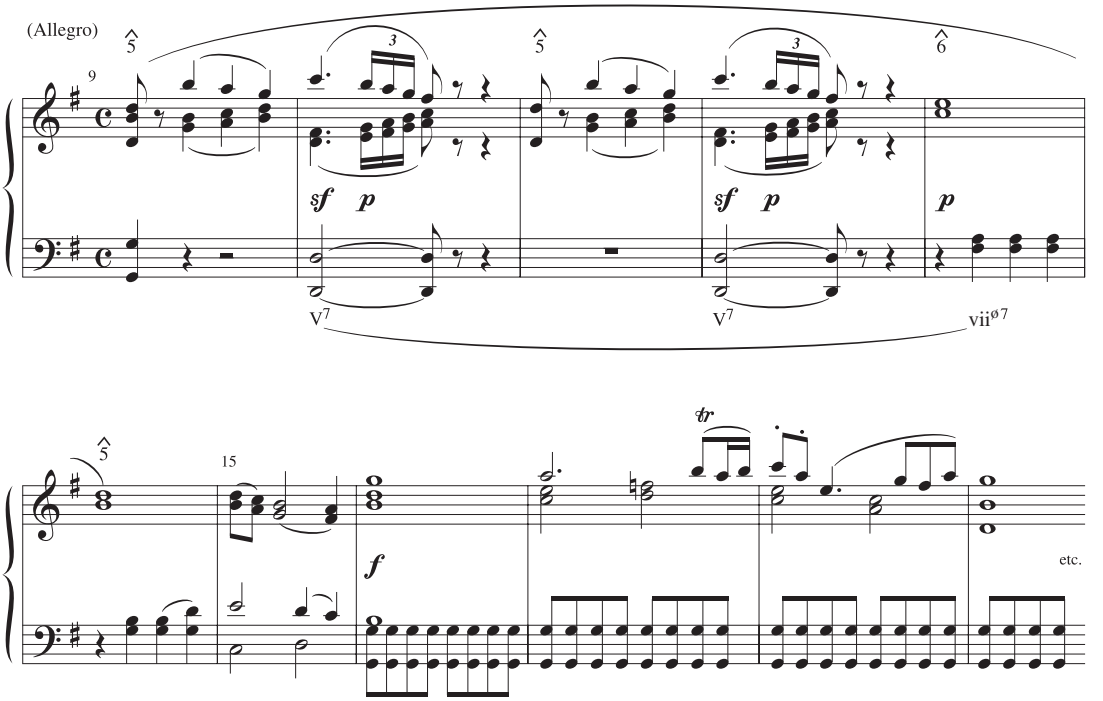
23-18 *Mozart, Piano Concerto, K. 453, I (vii^{ø7} extends dominant harmony)*

POINTS FOR REVIEW

1. vii$^{\circ 7}$ is built on the raised seventh step of minor and resolves to i. Its first three positions correspond to inversions of V^7:

Position	Typical Function
vii$^{\circ 7}$ =V$^6_5$	LN to i
vii$^{\circ 6}_5$ = V$^4_3$	P between i and i^6
vii$^{\circ 4}_3$ = V$^4_2$	UN to i^6

2. Resolving vii$^{\circ 7}$. Review the box in section 6.
3. The $^{\circ 4}_2$ position is the least frequently used; it resolves to either a consonant or a dissonant $^6_4$ (Example 23-9).
4. The seventh of vii$^{\circ 7}$ or its inversions is usually introduced as a neighboring tone ($\hat{5}$-$\hat{6}$-$\hat{5}$), common tone, passing tone, or incomplete neighbor.
5. vii$^{\circ 7}$ may result from a neighbor or suspension resolving to the root of V^7 (Example 23-10), may occur over a tonic pedal (Example 23-11), and may be extended by voice exchange (Example 23-12).
6. vii^{ø7} is used in major only, usually as a neighbor to I (soprano $\hat{5}$-$\hat{6}$-$\hat{5}$). Its most frequent inversion is $^{ø4}_3$, with $\hat{6}$ in the soprano. Example 23-16 shows typical ways of avoiding 5ths when resolving vii^{ø7}.

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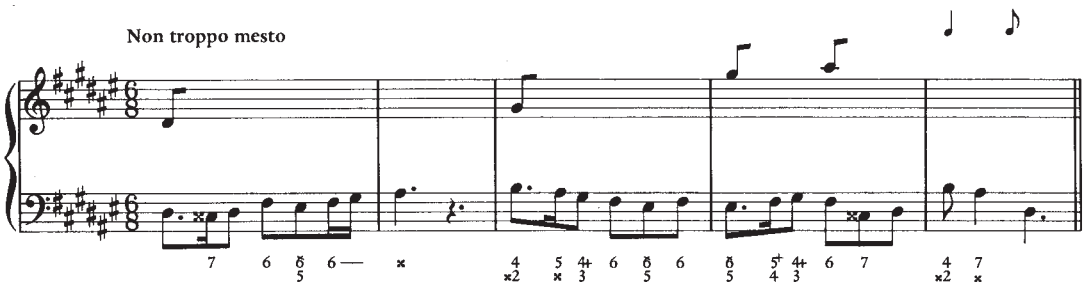
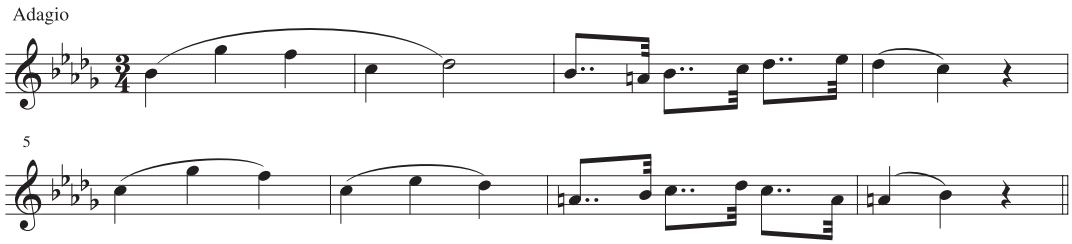
EXERCISES

1. Preliminaries. Write at least ten of the following progressions. Use a different key for each one.
   a. Minor key: i-vii°7-i. Begin with $\hat{5}$ in the soprano.
   b. Minor key: i-iv-vii°7-i.
   c. Minor key: i-ii°6-vii°7-i.
   d. Minor key: i-III-vii°7-i.
   e. Minor key: i-III-♮VII-vii°7-i.
   f. Minor key: i-V$\frac{6}{5}$-vii°7-i.
   g. Minor key: i-vii°$\frac{6}{5}$-i6. Include parallel 10ths in the outer voices.
   h. Minor key: ii°6-vii°$\frac{6}{5}$-i6. Begin with $\hat{2}$ in the soprano.
   i. Minor key: V-vii°$\frac{4}{3}$-i6.
   j. Minor key: ♮VII-vii°$\frac{4}{2}$-V$\frac{6\text{-}5}{4\text{-}\sharp}$-i.
   k. Major key: I-viiø7-I. Begin with $\hat{5}$ in the soprano.
   l. Major key: I-viiø$\frac{4}{3}$-I6.

2. Figured bass.



MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

3. Melody. Set note against note, using °7th chords wherever appropriate.

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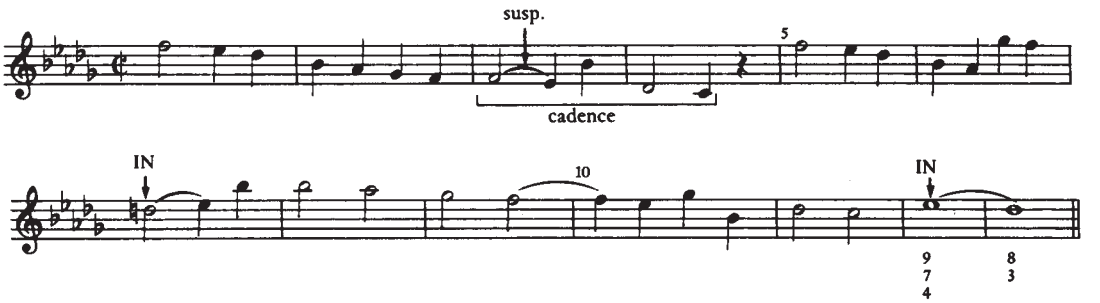
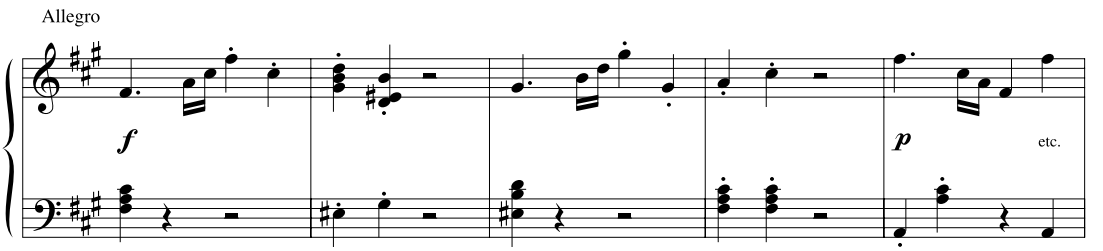
4. Melody. Set for string quartet. Use vii^{ø7} where appropriate. In certain places an overlap between soprano and alto is unavoidable.



5. Write a group of two phrases in minor, according to the following guidelines: The first phrase prolongs the opening tonic with various positions of vii$^{°7}$. It leads through a cadence to a goal tonic in what would be the eighth measure of the phrase, but that tonic functions instead as the beginning of the second phrase. To make this reinterpretation (or elision) vivid, end the first phrase in *piano* and begin the second with a sudden *forte*. The second phrase should modulate to III and should use a half-diminished seventh as a neighbor chord to the III. The following example provides a possible beginning.

Example

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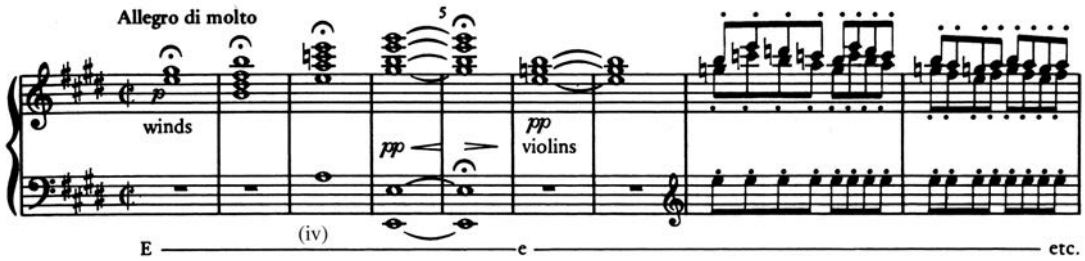
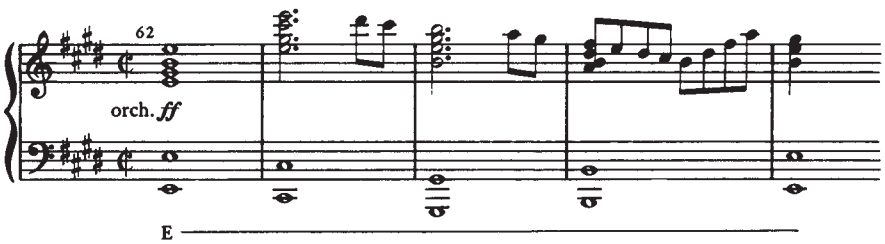
UNIT

24 Mixture

24-1

(a) Mendelssohn, A Midsummer Night's Dream, Overture



(b) Mendelssohn, bars 62–65

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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Combining Modes

1. Minor in Major and Vice Versa. As its key signature shows, Mendelssohn's Overture to *A Midsummer Night's Dream* (Example 24-1) is in the key of E major. But this E major is permeated by elements borrowed from the parallel minor. Thus, the A-minor chord of bar 3 would naturally occur on the fourth step of the E-minor scale, not the E major. And, more unusually, the entire opening theme of this composition in major occurs in minor (bars 8ff). Only much later on—in bar 62—does the major reassert itself.

We use the term "mixture" to indicate the appearance of elements from minor in the context of major (as in the Mendelssohn example) or the reverse—elements from major used in minor. This is a rather extreme example; the extensive use of minor has a programmatic meaning, symbolizing the incursion of the supernatural into the world of everyday reality. But mixture can and frequently does occur in absolute music; it is a most important compositional resource. The major–minor duality is, of course, a basic attribute of the tonal system; using mixture enables a composer to focus on this duality within a single piece or passage. Through mixture, the characteristic effects of one mode can be incorporated into the other—for instance, the active melodic progression $\hat{6}$-$\hat{5}$ in minor can occur in major. And using two different tones to represent the same scale degree (G♯ and G♮ both function as $\hat{3}$ in Example 24-1) provides not only variety but often the potential for dramatic juxtaposition and, even, conflict.

In this unit, we shall discuss some of the most frequent and important possibilities; further applications will be discussed in Unit 31.

A NOTE ON TERMINOLOGY

The use of mixture, with its altered scale degrees, creates a few problems in terminology. In making a general statement about altered scale degrees and chords, we use the symbols ♯ and ♭ to mean raised and lowered (for unaltered scale degrees and chords, we would use a ♮). But if we refer to a specific passage, we would use the accidental that occurs in its key. Thus, an A♭-major chord in the key of C would be labeled ♭VI; an F-major chord in the key of A would be labeled ♮VI. Note that the accidental appears *before* the Roman numeral when it modifies the root of the chord (Example 24-5); an accidental *following* the Roman numeral is read as in figured bass (Examples 24-2a, c, d, and e). Thus, a sharp or flat standing alone modifies the 3rd above the bass. This system is simple and works well in most situations.

2. ♭$\hat{6}$ in Major. Mixture frequently results from the use in major of the 6th scale degree of the natural minor (such as the C♮ in bar 3 of Example 24-1). Using ♭$\hat{6}$ creates new forms of subdominant and supertonic harmony: iv, ii$^{\text{ø}6}_{\flat}$, and so forth.

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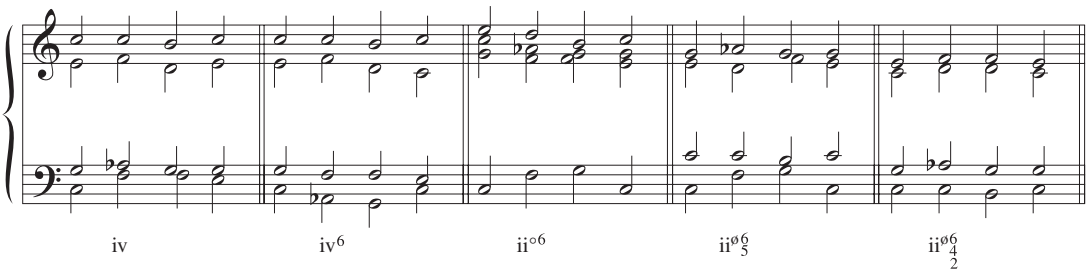
Because ♭$\hat{6}$ is a "foreign" element, its introduction requires some care; improperly used, it can sound arbitrary or disruptive. Chords containing ♭$\hat{6}$ require no special preparation when they come directly from tonic harmony (Examples 24-2a–e); as these examples indicate, ♭$\hat{6}$ very often functions as upper neighbor to $\hat{5}$.

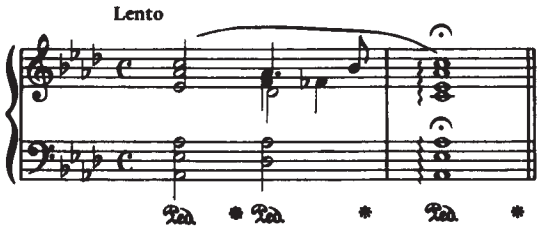
Another possibility is for ♭$\hat{6}$ to come about as an inflection of ♮$\hat{6}$. In Example 24-2f, the F♭ is a passing tone, but one unlike any passing tone we have encountered thus far—it can also be construed as the 3rd of the chord. We still hear a D♭ chord, but one of minor rather than major quality. In the piano accompaniment of Example 24-2g, ♭$\hat{6}$ also comes from ♮$\hat{6}$, but the leap in the voice part up to A♭ emphasizes the contrast with ♮$\hat{6}$ and highlights the key word "Herz."

As you can hear in the progressions and excerpts of Example 24-2, ♭$\hat{6}$ is strongly active in the direction of $\hat{5}$ Once introduced, it tends to move to $\hat{5}$; it will not normally be replaced by ♮$\hat{6}$ before $\hat{5}$ is reached. Example 24-2h shows you what to avoid.

24-2 ♭$\hat{6}$ *in major*

(a) *(b)* *(c)* *(d)* *(e)*



(f) Chopin, Nocturne, Op. 32/2

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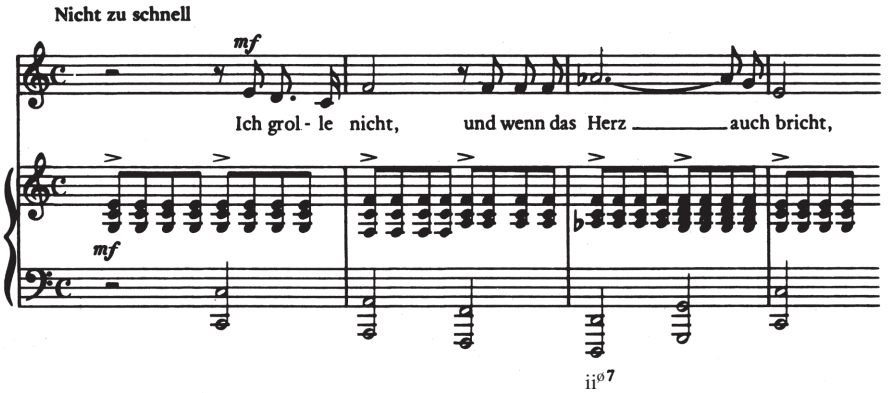
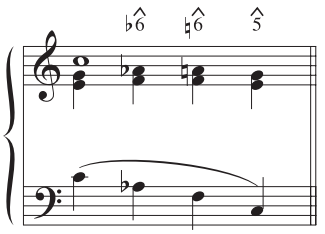
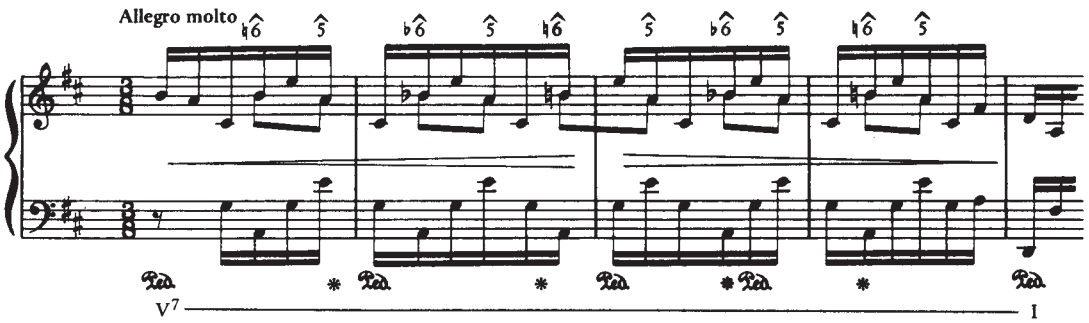
(g) Schumann, *Dichterliebe*, Op. 48/7

translation: I bear no grudge although my heart is breaking.

(h)

avoid

The melodic tension and expressive power of ♭6̂ can be evident even when it functions as a dissonant tone of figuration, especially if it contrasts with ♮6̂, as in Example 24-3.

24-3 Chopin, Prelude, Op. 28/5



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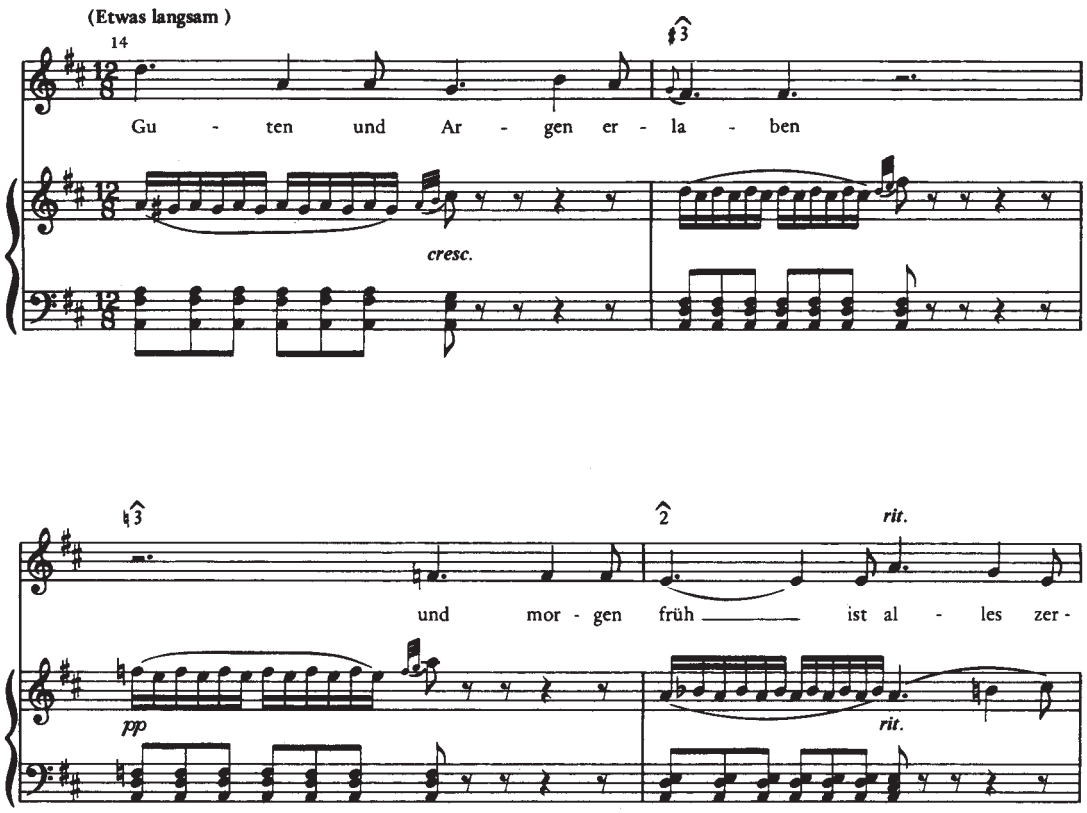
3. $\hat{\flat 3}$ *in Major.* Using $\hat{\flat 3}$ in major, as in Example 24-1, can produce a minor tonic harmony and a beautifully expressive contrast with the normal, major tonic. Like $\hat{\flat 6}$, $\hat{\flat 3}$ often originates as an inflection of the natural scale degree. In Example 24-4, the melodic progression $\hat{\natural 3}$-$\hat{\flat 3}$ occurs over a cadential $\frac{6}{4}$. The $\hat{\flat 3}$ functions as a large-scale chromatic passing tone on the way to $\hat{2}$. Note the appearance of B♭ as upper neighbor to $\hat{5}$ in bar 17. The use of $\hat{\flat 6}$ as a tone of figuration continues the minor color introduced by the F♮ of the preceding bar.

> *Note:* When a composer introduces an emphasized tone that belongs to minor, the accompanying details of figuration usually follow the minor scale.

24-4

(a) Schubert, "Im Dorfe" *(from Winterreise, D. 911)*

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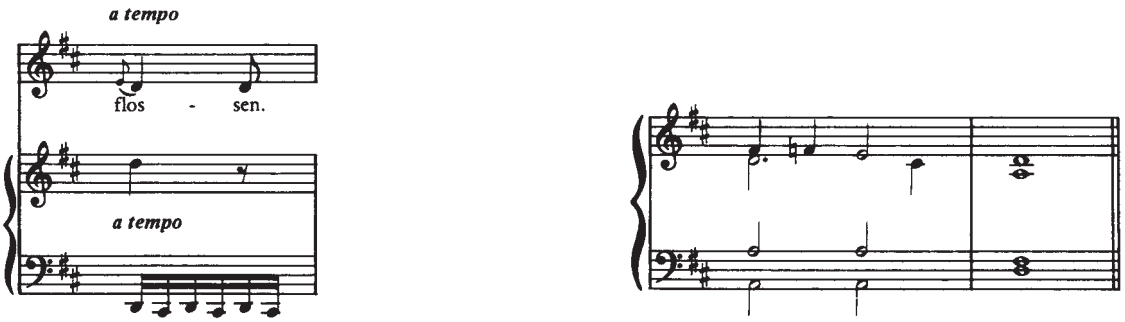
(b) reduction

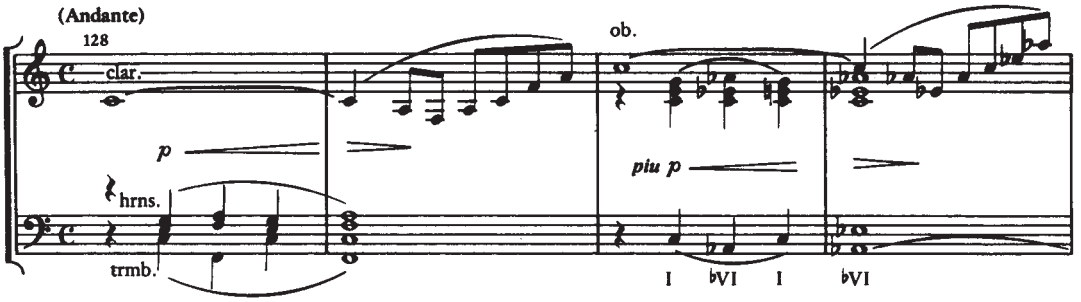


translation: [Dreaming, they] refresh themselves with good and bad. And in the morning, it's all gone away.

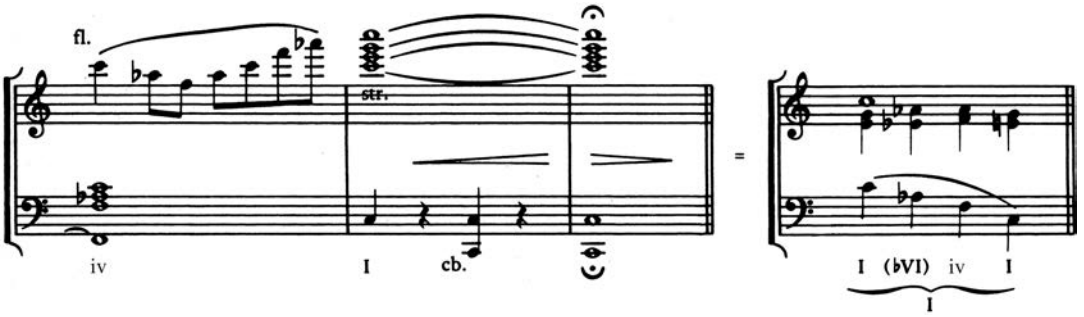
Combining ♭$\hat{3}$ and ♭$\hat{6}$ permits the introduction into major of ♭VI—the VI of the parallel minor—one of the most important and frequently used chords created by mixture. In Example 24-5, ♭VI marks the beginning of a brief passage in minor, culminating in a plagal cadence iv-I—a very characteristic use of mixture.

24-5

(a) Brahms, Symphony No. 3, Op. 90, II



(b) reduction



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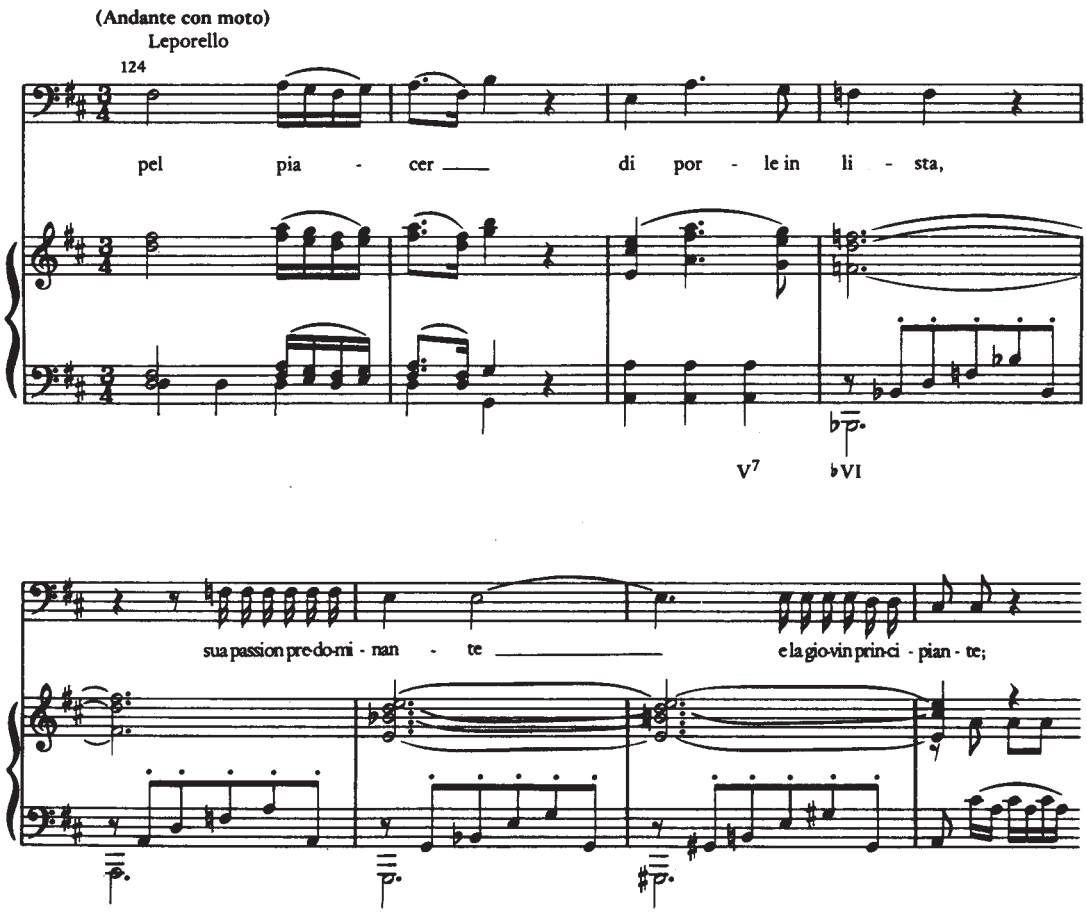
Using ♭VI in place of vi as the goal chord of a deceptive cadence in major greatly increases the tonal contrast and, consequently, the deceptive effect. In Example 24-6, ♭VI initiates a brief passage in minor; a passing D-minor $\frac{6}{4}$ chord leads to the ii$^{\circ}\frac{6}{5}$ borrowed from D minor, which moves on through an applied dominant (Unit 15, Section 4) to V, the principal goal of the phrase.

24-6 *Mozart, "Madamina"* *(from Don Giovanni, K. 527)*



translation: [He seduces older ladies] for the pleasure of adding them to his list. But his predominant passion is for those who are new to the game.

4. ♯$\hat{3}$ *in Minor.* Using the major form of $\hat{3}$ in minor produces a major tonic (I♯); this is one of the most frequent instances of mixture. Its use at the end of a piece (or section) creates the well-known "Picardy 3rd." Familiar as this device may be, it can create effects of startling power, as in Example 24-7.

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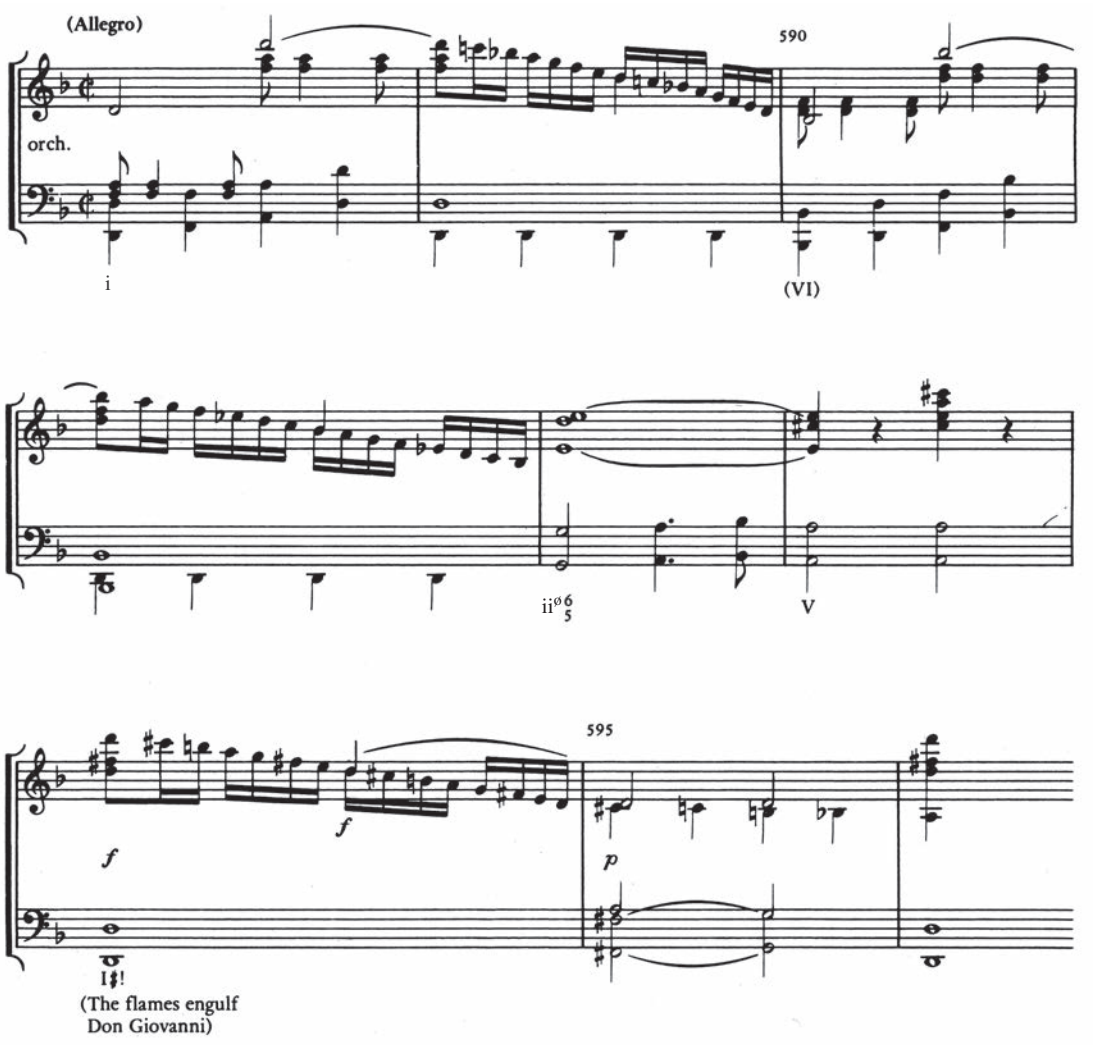
24-7 *Mozart, Don Giovanni, Finale*

There is no need to discuss at this point the use of ♯$\hat{6}$ and ♯$\hat{7}$ in minor; you are already familiar with these scale degrees through working with the harmonic and melodic forms of minor.

> *Note:* In some cases we will add an accidental after a Roman numeral. This "redundancy" highlights more vividly the notion of *chromatic inflection*, an integral characteristic of mixture. Some possibilities are I♯ in minor, III♯ and VI♯ in major.

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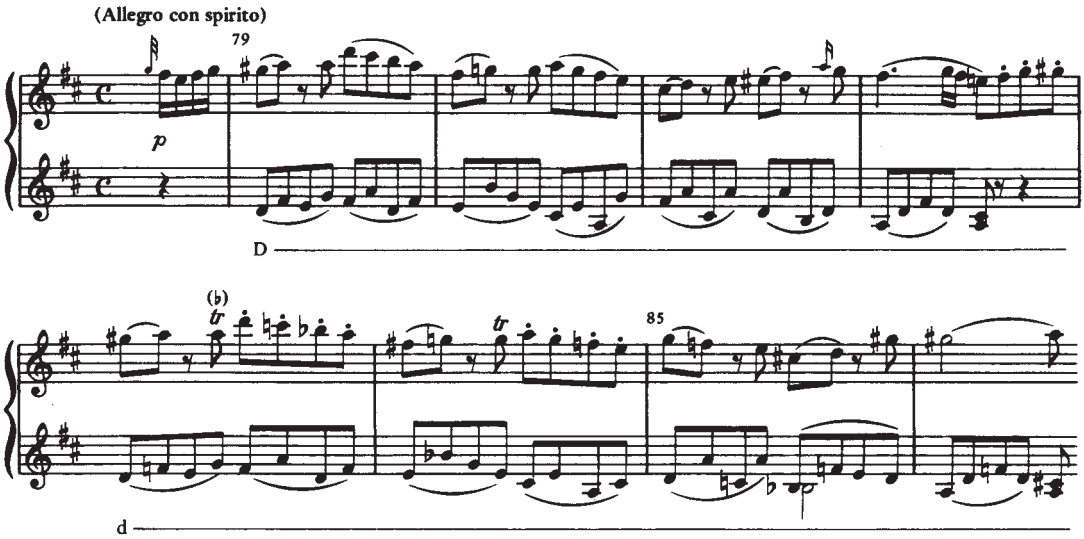
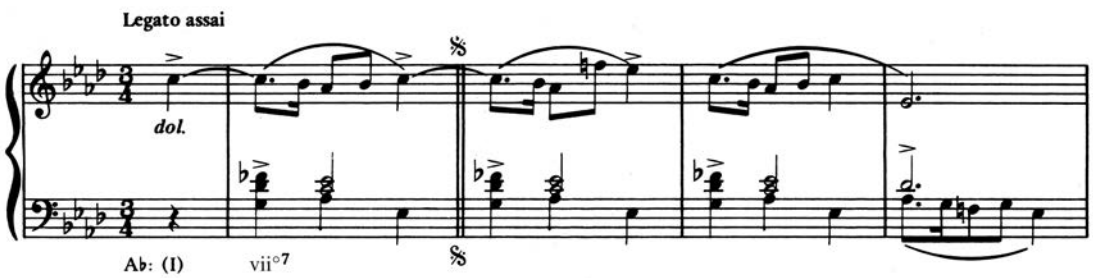
5. *More Extended Uses of Mixture.* Sometimes an entire phrase or group of phrases is cast in the parallel minor or major. The contrast is particularly vivid when the change of mode varies what otherwise would be a repetition (Example 24-8, bars 79–80 and 83–84). The soprano G♯ at the end of measure 85 turns the ♭VI into an augmented 6th chord—a type of chromatic chord we shall explore in Unit 30.

24-8 *Mozart, Piano Sonata, K. 311, I*

6. *vii°⁷ in Major.* Using ♭6̂ instead of ♮6̂ in vii°⁷ makes it possible to introduce the diminished seventh chord into a composition in major. This happens frequently. Using vii°⁷ in major creates no new problems; the contrapuntal functions and the details of dissonance treatment are the same as in minor. Example 24-9 is the beginning of a Chopin Mazurka in A♭ major that contains the diminished seventh chord as a prominent feature. In this piece, the opening upbeat (which represents tonic harmony) is not supported by a chord; vii°⁷ is the first actual chord heard. In a literal sense, therefore, the 7th enters without preparation; what happens later, however, clarifies the function of F♭ as upper neighbor to E♭.

24-9 *Chopin, Mazurka, Op. 17/3*

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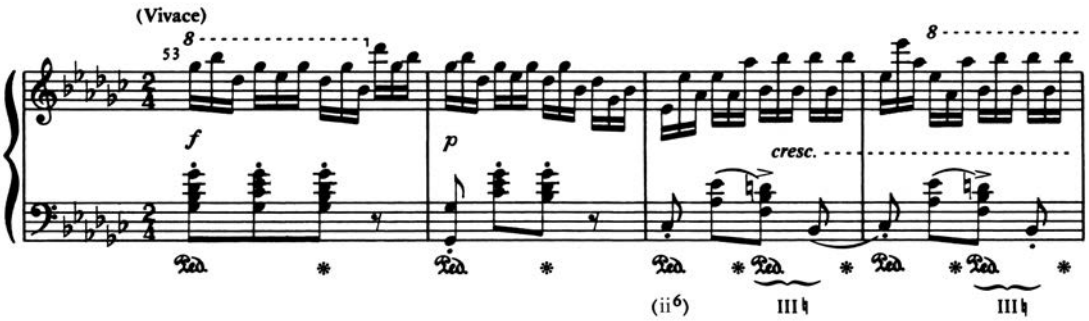
7. *Secondary Mixture.* We use the term "secondary mixture" to denote the alteration of the 3rd of a triad where such alteration does not result from normal mixture. In other words, secondary mixture refers to changing the quality of a triad that normally occurs in a key, for instance, raising the 3rd of iii or vi in major. The most important chord altered through secondary mixture is III♯ in major as a major triad (for example, an E-major triad as III♯ in C major). This alteration makes for more contrast of sonority between the mediant and I or V than is possible in a purely diatonic setting; consequently, III♯ is very much emphasized and can serve as a temporary goal (Example 24-10). Another possibility is the alteration of the submediant into VI♯. Some theorists call secondary mixture "chord mixture" as opposed to "mode mixture" (an alternative term for primary mixture).

24-10 *Chopin, Etude, Op. 10/5*



In moving from I to III♯ and from III♯ on to V, composers generally avoid the direct chromatic progression ♮$\hat{5}$-♯$\hat{5}$ (in C major, G♮-G♯). In Example 24-10, the ii^6 chord preceding the III♯ prevents such a direct chromatic progression and helps integrate the III♯ into a smoothly flowing progression. In this Chopin example, note that the approach to III♯ produces the effect of a Phrygian cadence.

III♯ can fulfill a variety of functions, of which three are particularly characteristic. In Example 24-10, III♯ is an element of motion leading to an important cadential ii^6 that eventually reaches a final V-I. At other times, III♯ forms part of a large-scale arpeggiation I-III♯-V. (Beethoven used this plan for some of his sonata movements in major, for example the first movement of Op. 53, where the exposition moves from C major to E major, and the development leads to V, G major.) A third possibility is for III♯ to divide the progression V-I, as in Example 24-11. As a divider between V and I, III♯ typically appears before reprise sections, as it does in this example, and before sonata-allegro recapitulations. It would not normally lead from a cadential V to the final tonic of a phrase.

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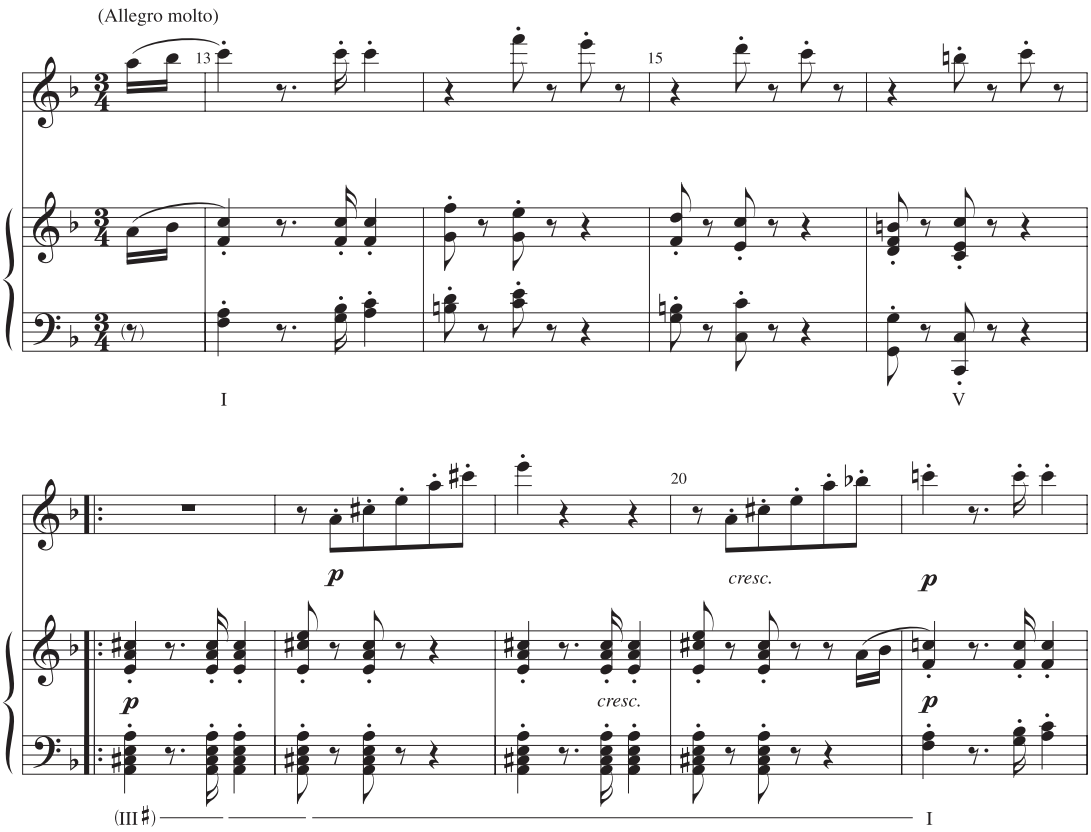
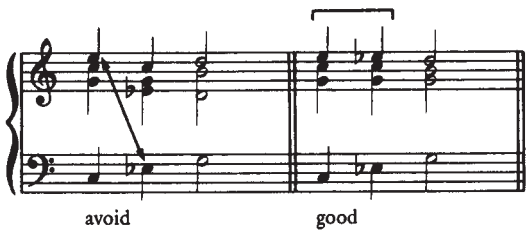
24-11 *Beethoven, Violin Sonata, Op. 24, III*

8. The Cross Relation. Mixture creates numerous possibilities for the cross relation—that problematic aspect of voice leading we encountered in Unit 16, Section 5. You will remember that a chromatic succession can sound disagreeable if it is split between two voices, especially when the two outer voices are involved (Example 24-12a). If, as in Example 24-12b, a direct chromatic succession occurs in one voice, the doubling of one of the tones does not constitute a cross relation and is unobjectionable.

24-12 *cross relation*

(a) *(b)*

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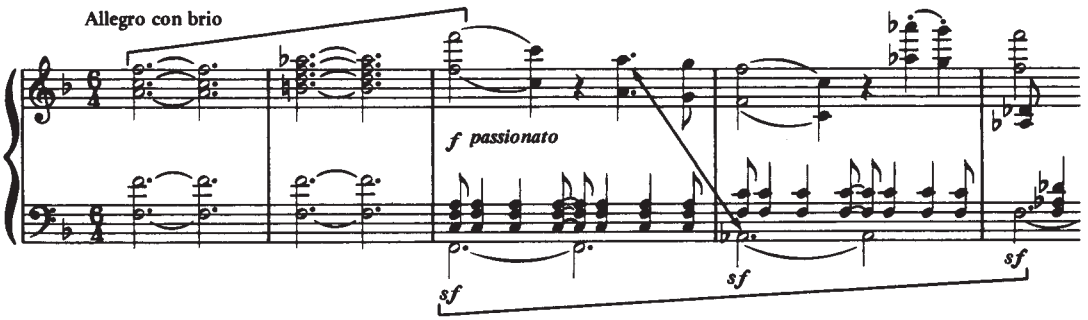
Composers sometimes have compelling reasons for writing cross relations—even harsh ones—between outer voices. The first movement of Brahms's Symphony No. 3, for example, opens with the motto F-A♭-F (Example 24-13). This motto then appears in the bass (bars 3–5), creating a cross relation (A♮-A♭) with the melody. The drastic confrontation between major and minor expressed by this cross relation is an important feature of this movement.

24-13 *Brahms, Symphony No. 3, Op. 90, I*

POINTS FOR REVIEW

1. Mixture means using tones from the parallel minor in a major key or the reverse.
2. The following are frequent uses of ♭$\hat{6}$ and ♭$\hat{3}$ in major:
   a. ♭$\hat{6}$ to color and intensify: iv, ii$^{\circ 6}$, ii$^{\emptyset 7}$, and so forth.
   b. ♭$\hat{6}$ to produce vii$^{\circ 7}$ in major.
   c. A combination of ♭$\hat{6}$ and ♭$\hat{3}$ to produce ♭VI.
   d. ♭$\hat{3}$ to produce a minor tonic.
3. Once introduced, ♭$\hat{6}$ tends to move to $\hat{5}$. Thus, ♮$\hat{6}$-♭$\hat{6}$-$\hat{5}$ is good; ♭$\hat{6}$-♮$\hat{6}$-$\hat{5}$ is poor.
4. ♯$\hat{3}$ in minor yields a major tonic ("Picardy 3rd").
5. III♯ in major is a frequent example of secondary mixture (VI♯ is another possibility). Three characteristic uses are:
   a. leading to ii^{6} (or perhaps IV).
   b. as part of the arpeggiation I-III♯-V.
   c. as part of the arpeggiation V-III♯-I.
6. III♯ is often approached by ii^{6}, thus avoiding the direct chromatic succession ♮$\hat{5}$-♯5.
7. Cross relations occur where a chromatic succession is split between two voices. They are usually avoided between outer voices, but the apparent cross relation produced by doubling is unobjectionable (Example 24-12b).

EXERCISES

1. Preliminaries. Write brief progressions, each in a different key, showing typical usages of the following:
   a. ivb, ii$^{\circ 6}$, ii$^{\emptyset}_{5}$, ii$^{\emptyset 7}$(major).
   b. vii$^{\circ 7}$, vii$^{\circ}_{5}$, vii$^{\circ}_{3}$ (major).

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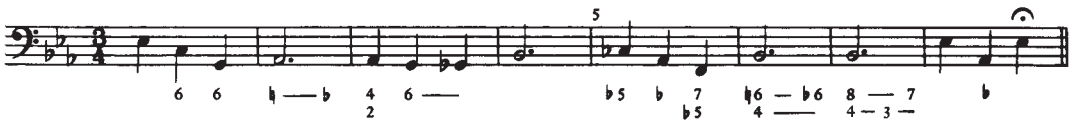
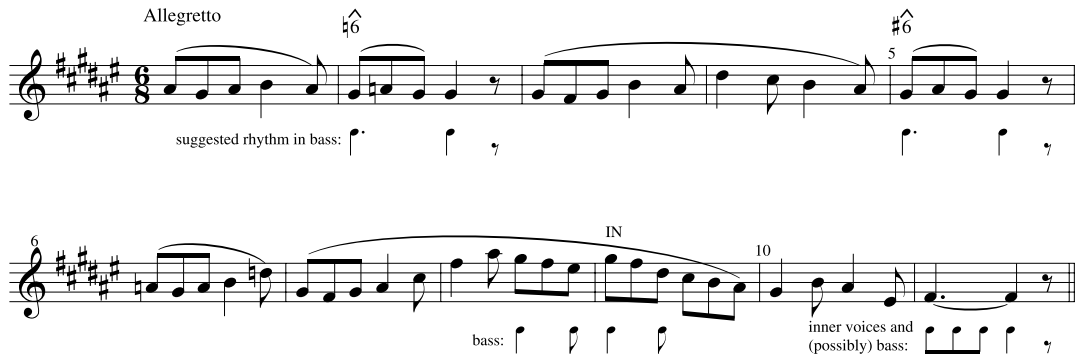
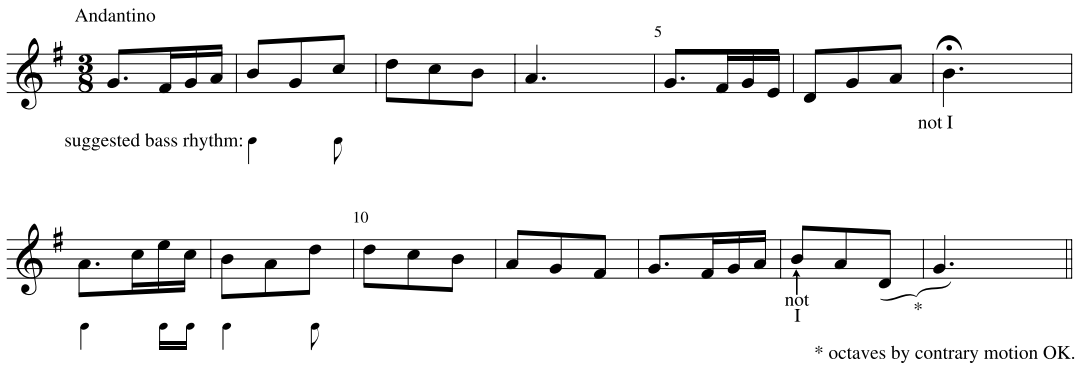
c. ♭VI (major).
d. III♯ (major).
e. I♯: (Picardy 3rd, minor).

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

2. Figured bass. In measure 5, parallel 10ths are possible between the outer voices if you're careful about spacing and doubling.

3. Melody. A special feature of this exercise is the contrast between ♯$\hat{6}$ and ♮$\hat{6}$. Don't overlook opportunities to use ♮$\hat{6}$ in the inner voices. Except where indicated, the rhythm of the bass mostly follows the soprano.



4. Melody. This exercise provides opportunities for using III♯. Except where indicated, the rhythm of the bass mostly follows the soprano.



5. Write a group of two phrases of at least four measures each, in antecedent–consequent relation. The first phrase should be in major, ending on V; the second should move to minor (without changing key signature) and should lead to an authentic cadence whose goal tonic returns to major. Except for the mode mixture and the different cadences, the two phrases should be as much alike as possible. Be sure to use tones of figuration, especially in the top voice, and to make them conform to the major or minor quality of the phrase.

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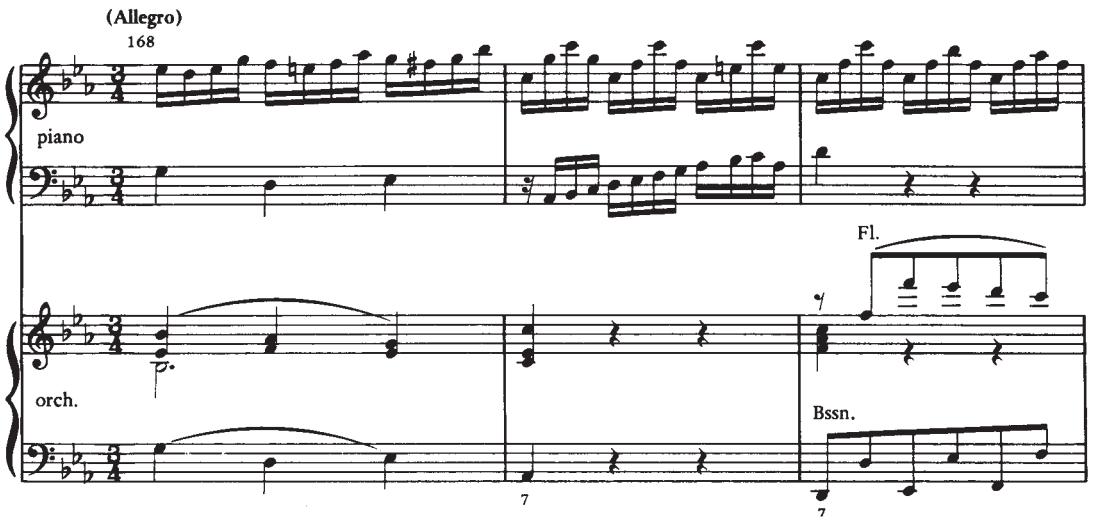
UNIT

25 Remaining Uses of Seventh Chords

25-1 *Mozart, Piano Concerto, K. 491, I*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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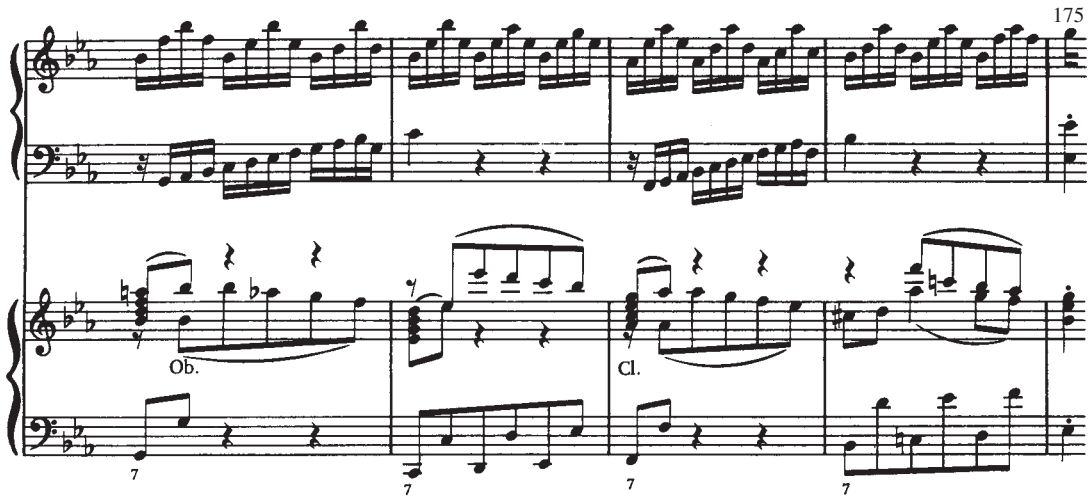
Seventh Chords in Sequence

1. ***Some New Techniques.*** You will quickly recognize the similarity between Example 25-1 and the examples in Unit 18. Clear sequential patterns occur in the piano part and in the bass and upper voices of the orchestral reduction. The underlying bass motion is in descending 5ths: E♭-A♭-D-G-C-F-B♭-E♭—a procedure by now very familiar to us. What is different from the Unit 18 examples is that the bass tones support seventh chords instead of triads; in fact, every chord, except for the initial and closing tonics, is a seventh chord. In this unit, we shall first discuss how seventh chords can be used in connection with techniques studied earlier—especially sequential techniques, like the descending 5ths of the Mozart. The second part of the unit will deal with more complex uses of dissonance, and the third part with chords that outwardly resemble seventh chords but function differently.

   In Unit 18 we discussed four basic types of triadic sequences and distinguished *models* from *variants;* as mentioned earlier, these basic sequence types may appear with diatonic seventh chords. In Unit 26, we shall discover how they may be chromatically embellished with applied seventh chords. In a sense, these more elaborate patterns—involving seventh chords and chromaticisim—are variations or "versions" of the triadic models. For clarity of discussion, however, we will continue to use the term *model* throughout this and subsequent units to refer to sequences built on one of the four bass lines indicated as models in the Points for Review in Unit 18; the term *variant* then refers to any form of the sequence that differs from the model. Hence, the Vivaldi passage in Example 18-3 and the Mozart excerpt in Example 25-1 both represent models of the descending 5th sequence, because the bass lines move by descending 5th (remember, *the name of the sequence names the model*). As we shall see, the sequence in Example 25-7, by contrast, is a variant, because $\frac{5}{3}$'s alternate with $\frac{6}{5}$'s.

2. ***Possibilities for Chord Succession.*** Progressions in which seventh chords occur must accommodate the descending resolution of the 7th; this is as true for I^7, iii^7, and vi^7 as for the seventh chords already familiar to us. By far the most frequent possibility is root motion by descending 5th; another is root motion

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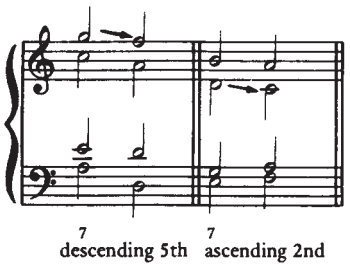
by ascending 2nd (Example 25-2b). As a consequence, seventh chords can substitute for triads in such progressions: for instance, vi^7-ii (descending 5th) and iii^7-IV (ascending 2nd). The resolution of the dissonance intensifies the motion to the second chord. Such progressions occur frequently in sequential, as well as in nonsequential, passages.

25-2 *downward resolution possible*

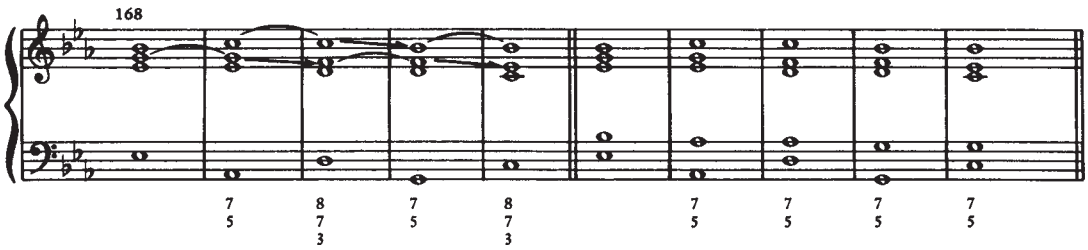
(a) *(b)*



3. Descending 5ths with Root-Position Seventh Chords. As Example 25-1 illustrates, sequential descending 5ths can easily incorporate *interlocking seventh chords*—that is, those that resolve into other seventh chords. With this pattern, each chordal 3rd prepares the 7th of the following chord as a common tone. *In four-part vocal writing, every other seventh chord must be incomplete if the dissonance is to resolve correctly;* this is a result of the principle of preparing and resolving the 7th in the same voice, as shown in Example 25-3a. To have every seventh chord complete requires a free texture (as in Example 25-1) or five voices (Example 25-3b).

25-3 *descending 5ths*

(a) reduction of Example 25-1 *(b) in five voices*



The contrast in appearance between Examples 25-1 and 25-3 indicates that, like other sequences with descending 5ths, those with seventh chords lend themselves to considerable elaboration. Example 25-4a shows the elaborations that occur in the orchestral part of the Mozart. The bass motion of an ascending 4th is filled in by step, while the flute and oboe alternate in connecting the 3rds of each chord. Example 25-4b, a reduction of the piano part, shows a most important technique: the decorated resolution of the chord 7th. Note that *canonic imitation* occurs both in Example 25-4a and Example 25-4b.

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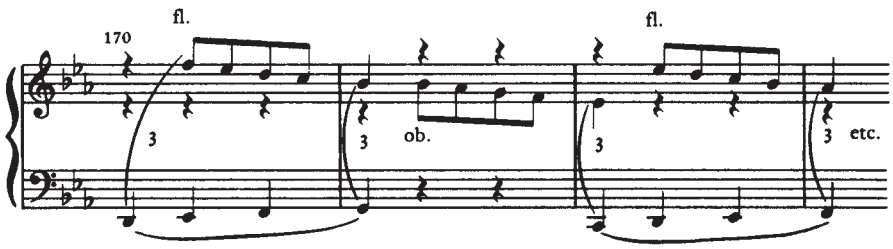
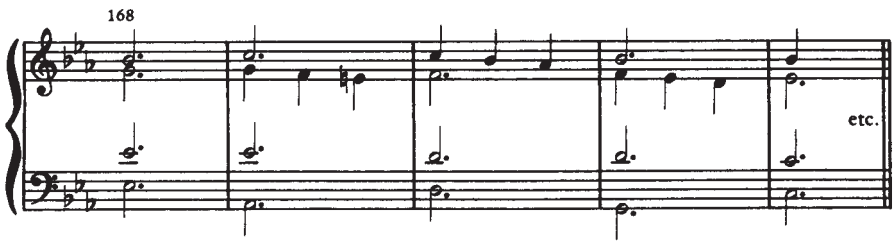
25-4 *Mozart, Piano Concerto, K. 491, I*

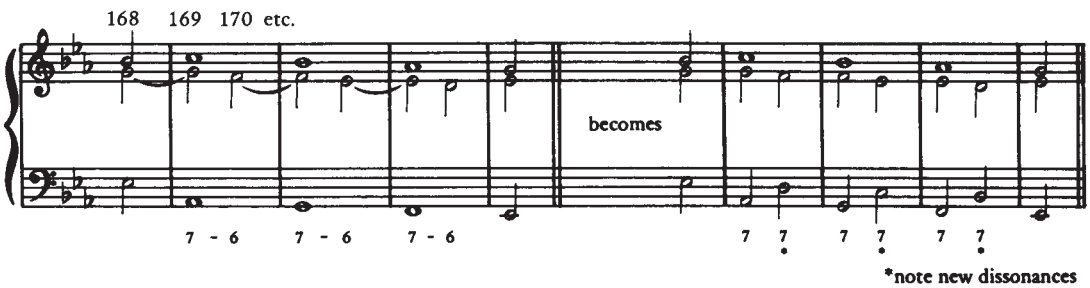
(a) reduction of the orchestra part



(b) reduction of the piano part

4. *Descending 5ths and 7-6 Suspensions.* In Unit 18, Section 6, we saw how a bass descending in 5ths often stands for the elaboration of a stepwise descending line. Example 25-5 shows how the series of seventh chords in Example 25-1 is derived from a 7-6 suspension series over such a descending bass. Thus, the series combines a contrapuntal (stepwise) motion with harmonic progression by 5th. The disjunct bass of Example 25-5b gives more emphasis to each chord and makes for a denser texture because of the added dissonance caused by the new bass tones.

25-5 *descending 5ths derived from 7-6*

(a) *(b)*



5. *Descending 5ths Alternating $\frac{5}{3}$ and 7.* Example 25-6a presents a passage from near the beginning of the Prelude from Bach's English Suite in G minor. Here we see that a descending 5th model may support $\frac{5}{3}$ chords alternating with

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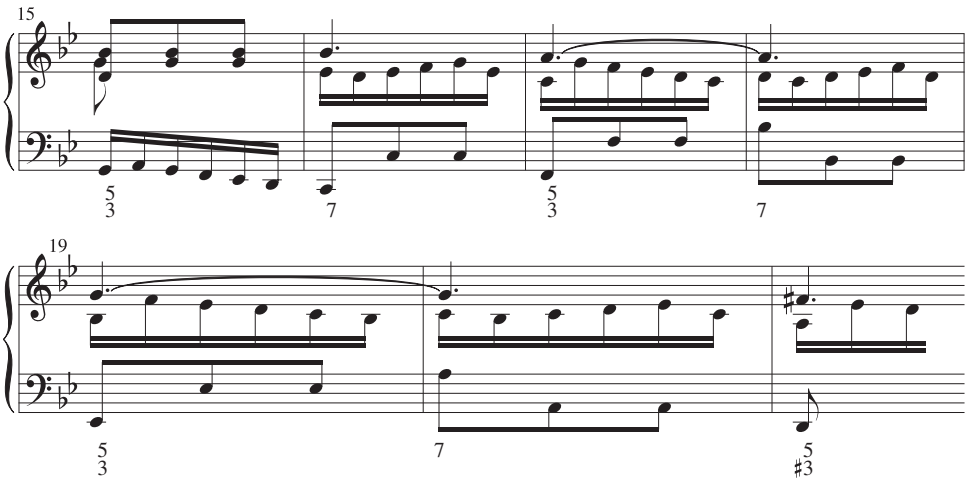
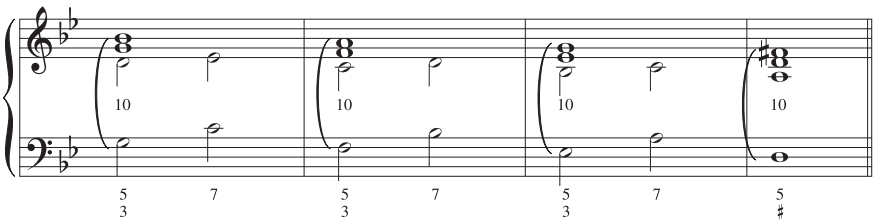
seventh chords. In Example 25-6b, the outer-voice pattern is 10-7, 10-7; notice also the parallel 10ths that occur from downbeat to downbeat. In this marvelous Prelude, Bach writes a *ritornello*—simulating a concerto movement in a piece for solo keyboard—that recurs throughout the movement. Our passage is from the second part of the ritornello, which very often uses sequences to produce *Fortspinnung*, a technique that characterizes many passages in Baroque music (review Unit 18, Section 2). In Unit 26, we will examine the subsequent sequence that forms the cadential progression.

25-6 *alternating $\frac{5}{3}$ and 7*

(a) Bach, English Suite No. 3 in G minor, BWV 808, Prelude

(b) reduction



6. *Descending 5ths with Inversions of Seventh Chords.* The patterns shown in Example 25-6 may be varied by using inversions of seventh chords. $\frac{6}{5}$ chords such as occur in Example 25-7 are particularly frequent. The diagonal lines in this example point to the transfer of the 7ths between the two instruments.

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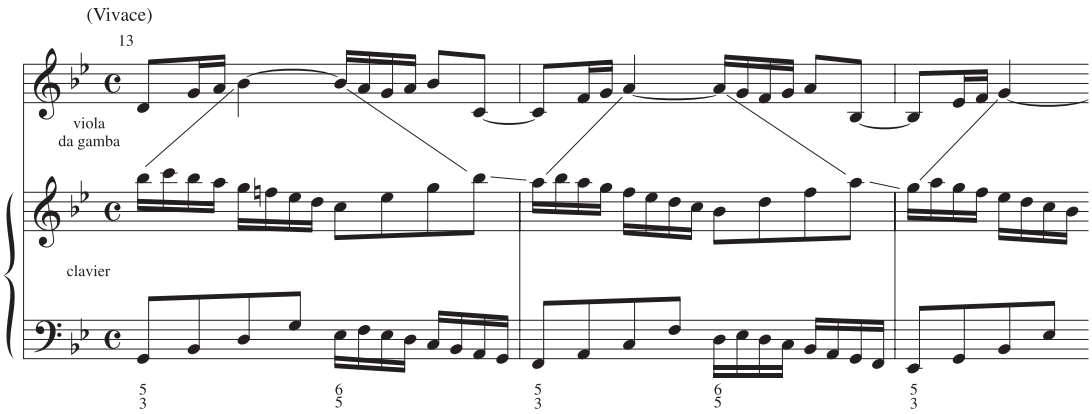
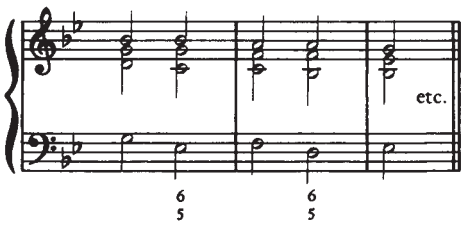
25-7 Bach, Gamba Sonata, BWV 1029, I

(a)



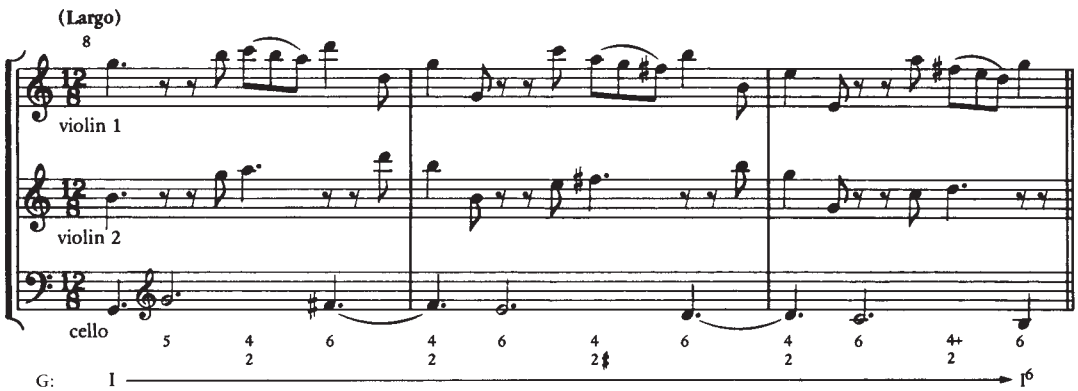
(b) reduction



Sequences with $\frac{4}{2}$ chords also occur frequently, sometimes resolving to $\frac{6}{3}$ chords (Example 25-8), sometimes to $\frac{6}{5}$'s. In Example 25-8, the descending, stepwise bass, which results naturally from the resolution of the $\frac{4}{2}$ chords, fills in the 6th between I and I^6. Before studying this passage, look at the reduction of Example 25-8b. Then notice the beautiful way Corelli has the two violins share the descending sequential line of the top voice.

25-8

(a) Corelli, Concerto Grosso, Op. 6/8, Pastorale



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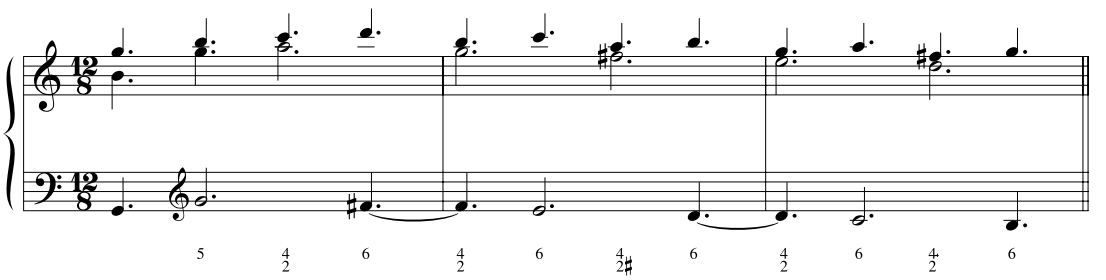
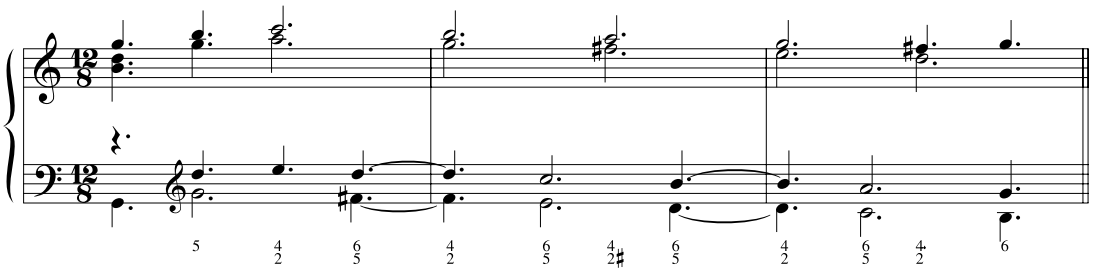
(b) reduction



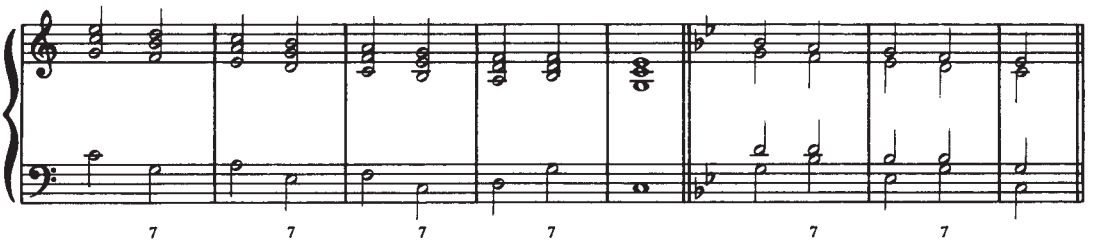
(c) with $\frac{6}{5}$'s



See the keyboard progressions in Appendix 1.

7. *Descending 3rds.* In the previous examples, the 7th is prepared as a common tone, but it may also come about as a passing tone; this makes possible motion in descending 3rds, as in Example 25-9.

25-9 *descending 3rds*

(a) *(b)*

8. *Ascending 5-6 Technique.* In instrumental style, an important variant of the 5-6 technique becomes possible—the $\frac{6}{3}$'s are transformed into $\frac{6}{5}$'s. In such progressions, the dissonant tone in each $\frac{6}{5}$ is prepared indirectly in a lower voice. In Example 25-10, the dissonance is prepared in the tenor and shifted into the soprano. For an illustration from the literature, review Example 18-1, bars 6½–8.

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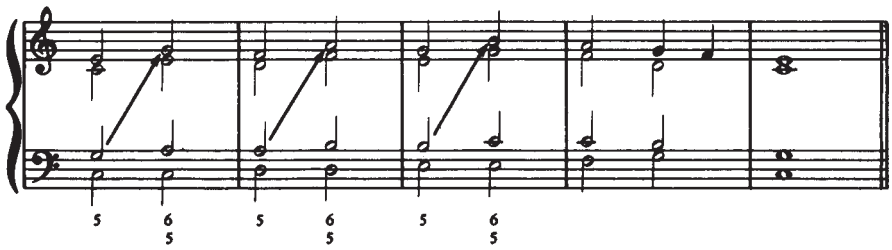
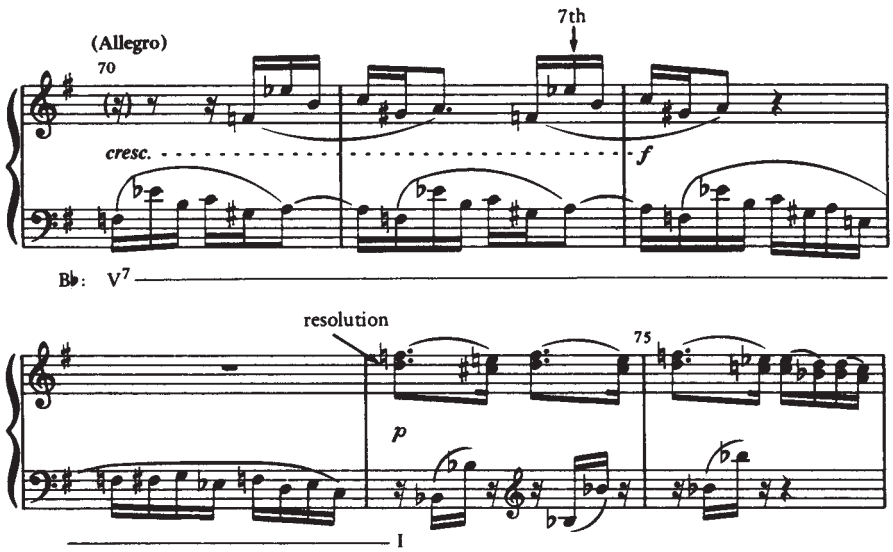
25-10 *ascending 5-6*



Expanded Treatment of Seventh Chords

9. *Transferred Resolutions.* The vast majority of seventh chords resolve according to the principles already familiar to us. Exceptions to the norms of dissonance treatment occur for the most part in complex instrumental textures. Sometimes, as with suspensions (review Unit 22, Section 22) and with the 4ths of $\frac{6}{4}$ chords (Unit 20, Section 9), the resolution of the 7th will be transferred into a different voice. Examples 25-11 and 25-12 show typical ways that this occurs. In Example 25-11, the soprano must move up to arrive at a theme that begins on $\hat{5}$. The tone of resolution appears in the same register in the alto voice. In the Mozart (Example 25-12), the 7th resolves into the bass (hence the i^6), a voice sufficiently exposed to make the tone of resolution prominent. In general, a transfer will be most successful if the resolution occurs in the next lower voice and in the same register, as in Example 25-11; or if it occurs in the bass, as in Example 25-12, or in the familiar progression I-V$\frac{4}{3}$-I^6 with parallel 10ths in the outer voices.

25-11 *Beethoven, Piano Sonata, Op. 14/2, I*



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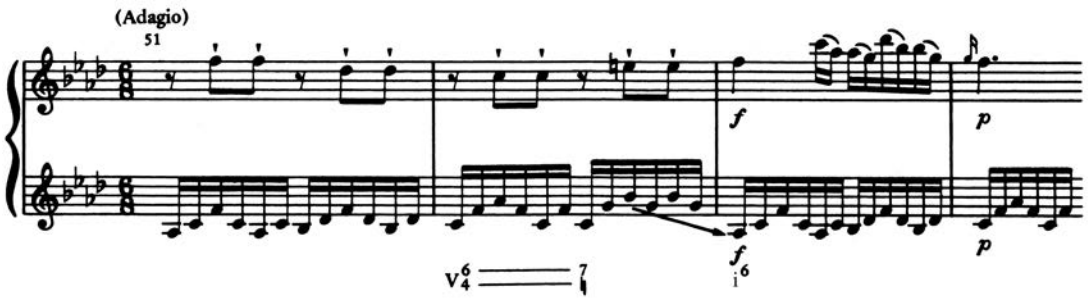
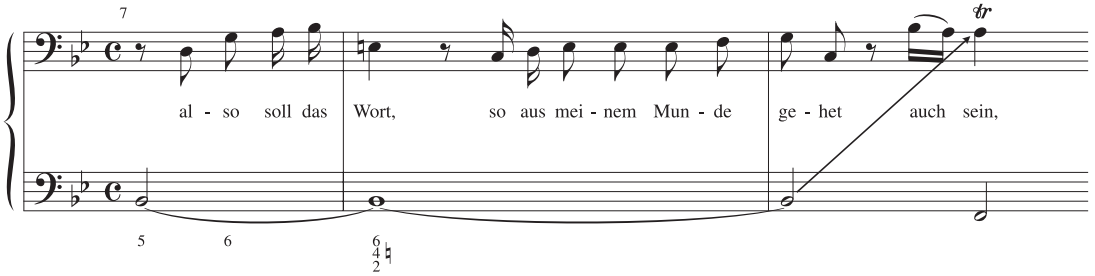
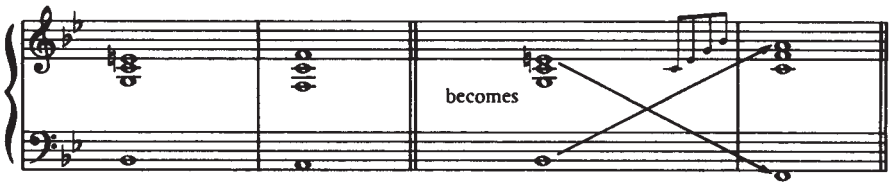
25-12 *Mozart, Piano Sonata, K. 280, II*

A type of transferred resolution that occurs mainly in recitatives is one where the bass tone of a dominant $\frac{4}{2}$ skips down to the root of tonic harmony. When this happens, there is a marked tendency for the tone of resolution to appear in the top voice, as in Example 25-13.

25-13 *Bach, Cantata 18, recitative*

(a)

translation: Thus also should be the word that goes forth from my mouth.

(b) *(c)*



Do not confuse the transferred *resolution* of the 7th with the much more frequent and simpler technique of transferring the 7th itself from one voice to another (Example 25-14).

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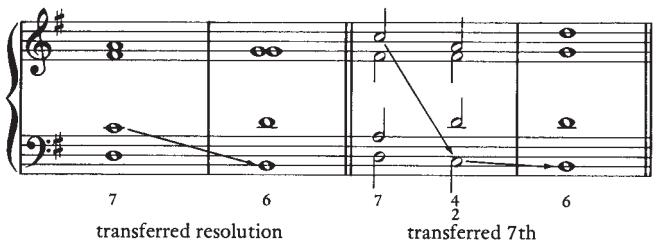
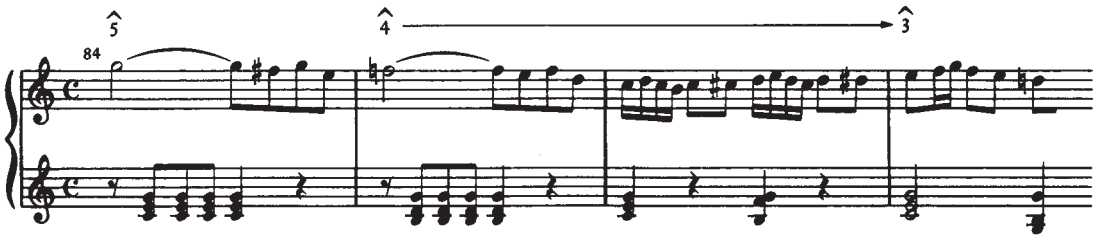
25-14 *transferred resolution vs. transferred 7th*

(a) *(b)*



10. *Delayed Resolutions.* Particularly if the 7th is in the soprano, a transferred resolution may not in itself be sufficient to resolve the tension created by the original dissonance. In Example 25-15, the listener does not hear a convincing resolution of the F♮ until the E arrives in bar 87. This technique—the delayed resolution of a 7th—occurs frequently, sometimes over much longer spans of time than in this example.

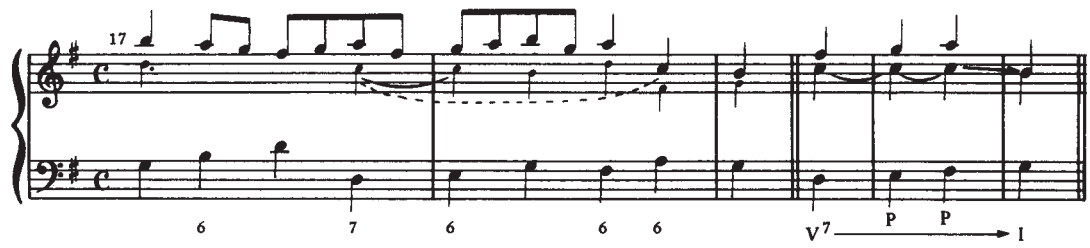
25-15 *Mozart, Piano Concerto, K. 467, I*



11. *Extended 7ths.* We already know that a seventh chord may be extended before it resolves (for example, V^7-IV^6-V^6_5), or that a chord may be interpolated between a 7th and its resolution (for example, ii^6_5–cadential $^6_4$–V). In both cases, the 7th eventually resolves down by step. Sometimes these techniques form the basis for further compositional elaboration, as Example 25-16 illustrates. Here the 7th of the V^7 chord in the last beat of bar 17 does not resolve until the tonic chord of bar 19.

25-16 *Handel, Flute Sonata, Op. 1/5, Bourrée*

(a) *(b)*



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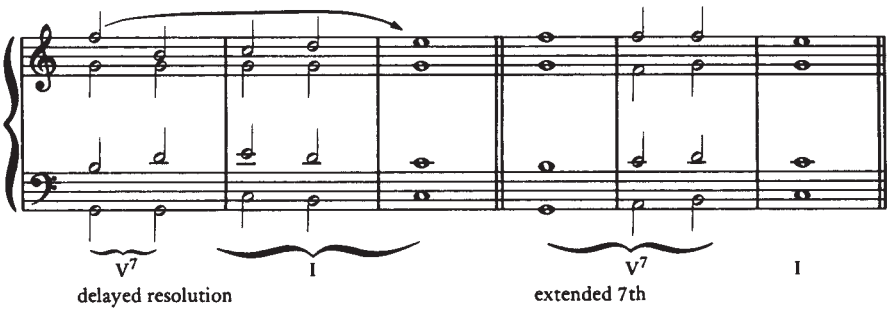
25-17 *delayed resolution vs. extended 7th*

(a) *(b)*

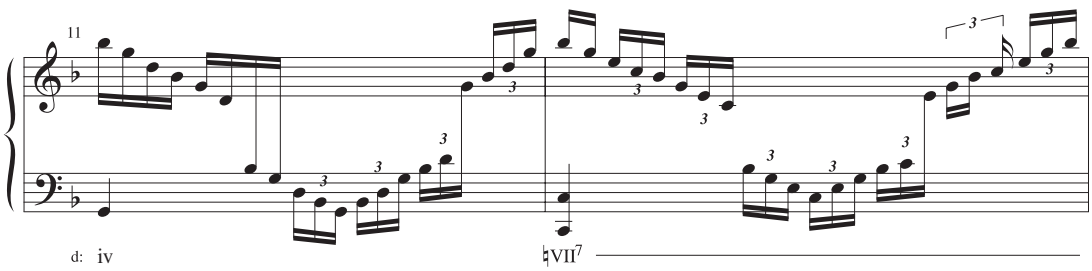


Note the difference between the delayed resolution of a 7th and the extended seventh chord. With the former, the chord of resolution is extended, whereas in the latter the seventh chord itself is extended (Example 25-17).

12. *Subtonic 7th Leads to V7.* Related to the extended seventh chord is the use of the seventh chord on ♭$\hat{7}$ in minor to prepare a position of V^7, usually V^6_5. As we know from Unit 16, Section 11 (Example 16-14), ♭VII can move into a V^6_5 that leads to i. The Handel excerpt of Example 25-18 illustrates a variant of this progression in which ♭VII is expressed as a seventh chord. Adding a 7th to ♭VII transforms the triad into a dissonant sonority that we might expect to resolve to III, since $\flat VII^7$ is also V^7 of III. In Example 25-18, this expectation is particularly strong: $\flat VII^7$ comes from a G-minor chord, suggesting ii-V^7 in F; in addition, it extends for three bars, expanded by a passing F major $\frac{6}{5}$ chord, which further enhances the suggestion of a resolution to III. When the $\flat VII^7$ continues on to V^6_5, the effect is surprising and dramatic. Creating an association between $\flat VII^7$ and V^7 gives a valuable alternative to extending dominant harmony through changes within V^7 itself, for the ultimate destination of the progression initiated by the ♭VII is much less predictable.

25-18 *Handel, Harpsichord Suite No. 3, I*

(a)



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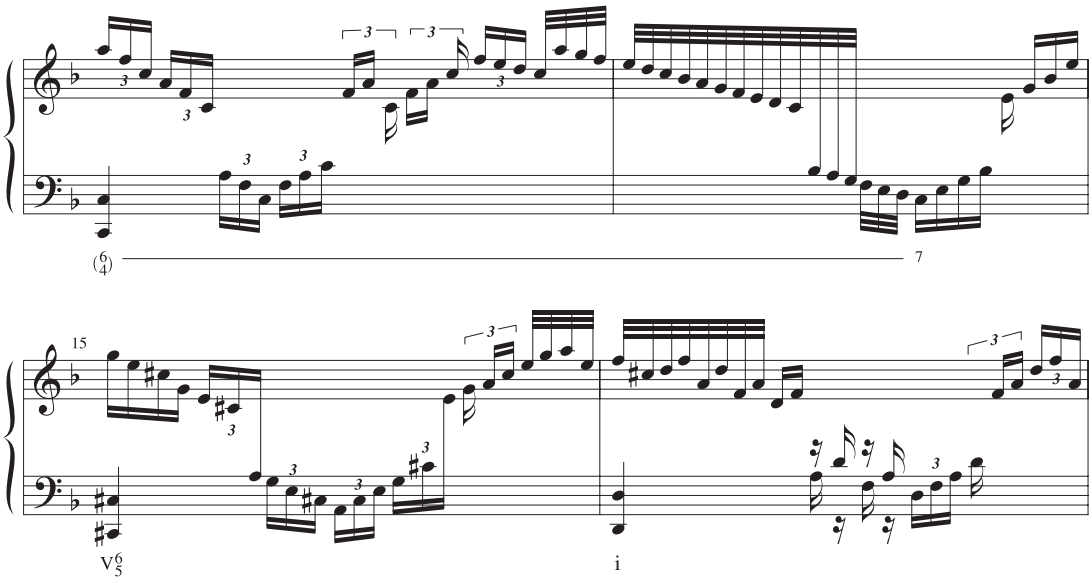
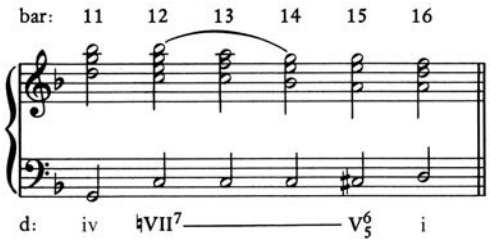

(b) reduction



Apparent Seventh Chords

13. *Upward-Resolving Dissonance.* The beginning of Act III of Wagner's *Tristan und Isolde* (Example 25-19a) includes a chord that appears to be the familiar ii$^{ø6}_{5}$ of F minor. However, this chord does not progress to V, nor does the 5th above the bass resolve down by step. A closer look at the music explains why. The (ii$^{ø6}_{5}$) continues the IV chord that begins the phrase; the dissonance is caused by the passing tone G, not by the F, as would be the case with a true ii$^{ø6}_{5}$. The patterns in Examples 25-19b, c, and d illustrate.

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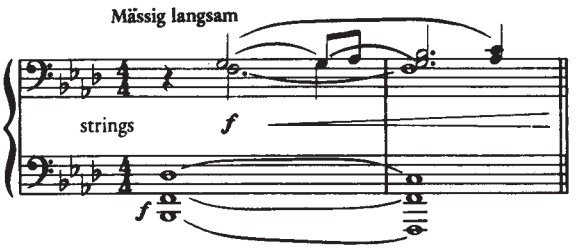
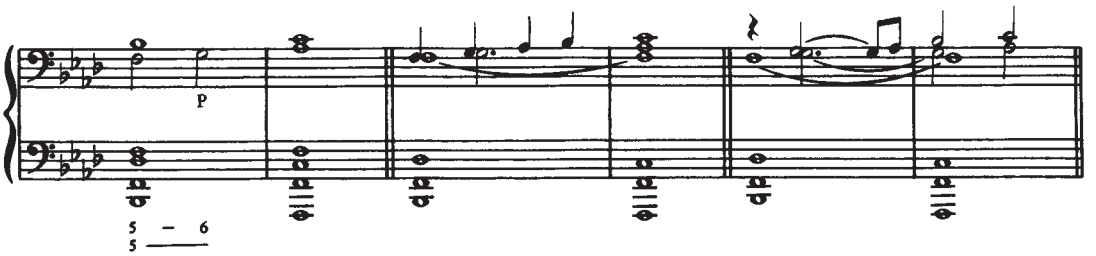
25-19 *Wagner, Tristan und Isolde,* Act III, Introduction

(a)



(b) *(c)* *(d)*



We use the term *apparent seventh chord* to indicate complexes of tones that appear to be seventh chords but that in fact are not, since *the dissonance is not caused by a 7th above the root.* They are less important than real seventh chords, but there are certain idiomatic progressions involving apparent sevenths that you need to know. The most characteristic possibilities are discussed in the following sections.

14. *Triads with Added 6th.* As we saw in the excerpt from *Tristan,* the apparent $\frac{6}{5}$ occurs where a 6th is added to a $\frac{5}{3}$ chord. This happens most often with IV (as in Example 25-19a). In such cases, the (ii$^{6}_{5}$) is really a IV with added 6th. Such IV chords occur frequently at plagal cadences, especially where an ascent to $\hat{3}$ is wanted, as in Example 25-20, where the consonant origin of the passing tone is omitted through contraction. Compare this usage with that of the (ii^{o6}) in Example 14-3.

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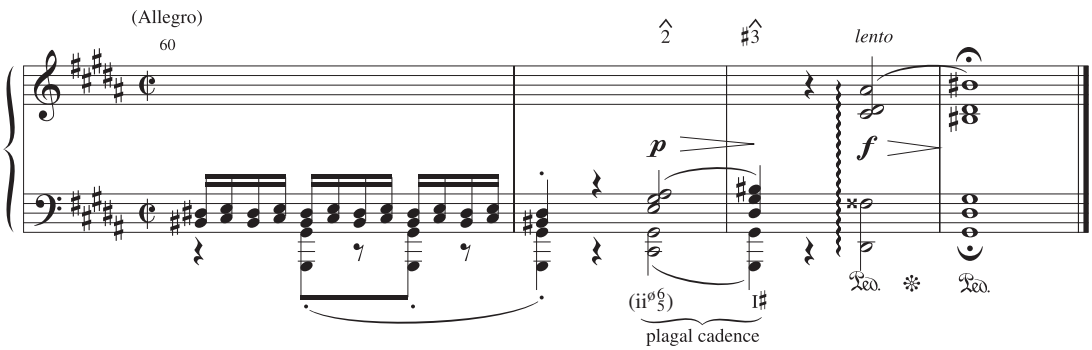
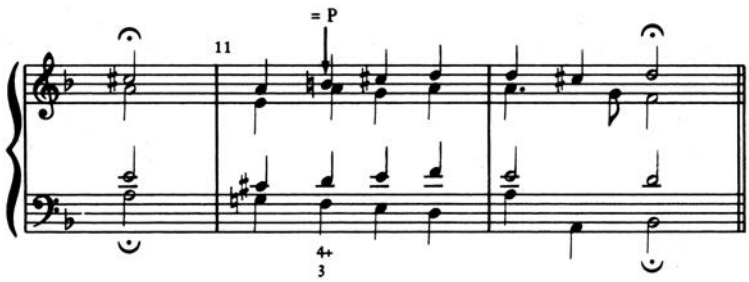
25-20 *Chopin, Etude, Op. 25/6*



A similar technique can be applied to $\frac{6}{3}$ chords. Example 25-21 shows how the addition of a 4th turns a $\frac{6}{3}$ chord (here a passing i^6) into an apparent $\frac{4}{3}$. Note that the 4th above the bass is the active element, not the 3rd above the bass, which is the 7th of the chord in a real $\frac{4}{3}$ position.

25-21 *Bach, Chorale 142*

15. *Apparent $\frac{4}{2}$ and $\frac{4}{3}$ over a Stationary Bass.* Neighboring or, sometimes, passing motion over a sustained bass (or a pedal point) can produce an apparent $\frac{4}{2}$. In Example 25-22, the bass of the $\frac{4}{2}$ is consonant; the chord functions as an embellishment of I. This chord is therefore similar in its function to the neighboring $\frac{6}{4}$ (Examples 20-6 and 20-7). It contains the same tones as the neighboring $\frac{6}{4}$ plus a neighboring or passing 2nd or 9th.

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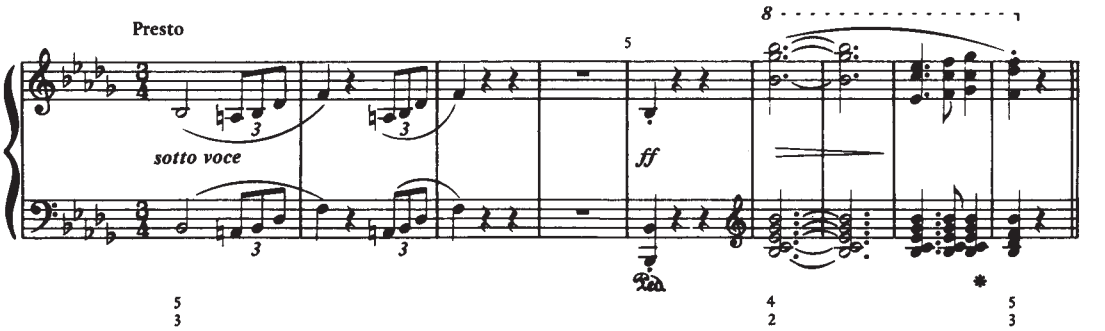
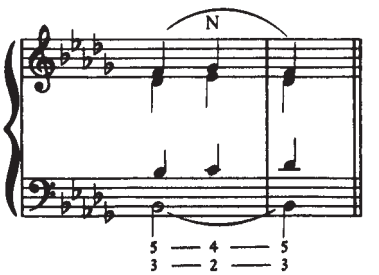
25-22 *Chopin, Scherzo, Op. 31*

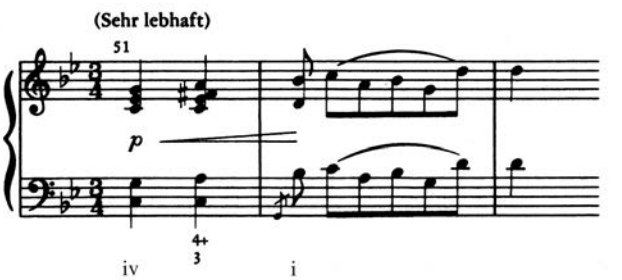
(a)



(b) reduction



Quite often one encounters what seems to be a diminished seventh chord (in $\frac{4}{3}$ position) that moves to a tonic over $\hat{4}$-$\hat{1}$ in the bass. Usually, as in Example 25-23, this is an apparent $\frac{4}{3}$, caused by neighbors and passing tones that decorate the iv-i progression. The special feature of this technique is that it adds the intensity of a leading-tone sonority to what is basically a plagal progression. (Because the diminished seventh chord contains both $\hat{4}$ and $\hat{6}$, it can sometimes stand for subdominant or supertonic harmony. For an additional illustration, see Example 32-15.)

25-23 *Schumann, Kreisleriana, Op. 16/5*

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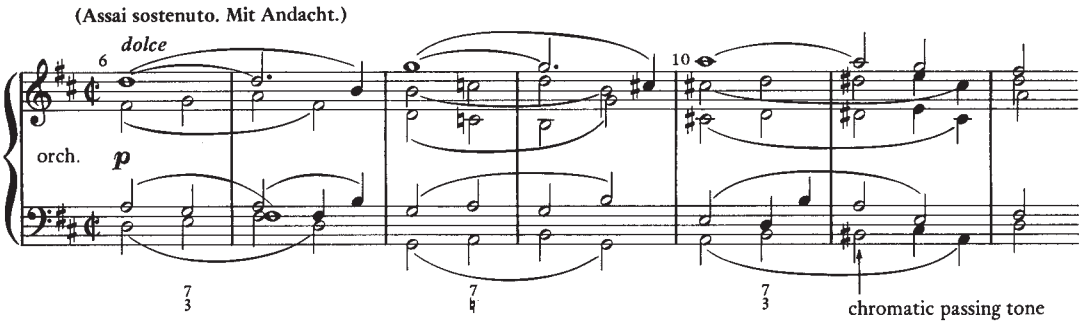
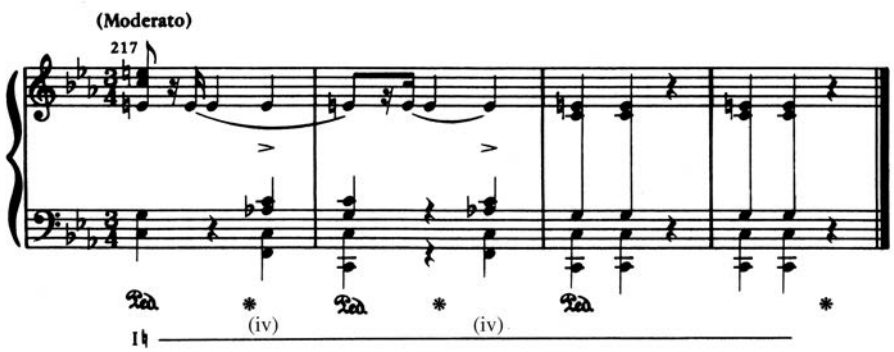
16. *Pedal Points in an Upper Voice.* In Example 25-24, bars 6–7, a tonic pedal is held in the top voice. Against this pedal, a complex of passing tones produces an apparent (ii$^{7}_{3}$). Unlike the examples quoted thus far, this "chord" does not consist of a complete triad plus an added tone but merely results from a contrapuntal motion against the sustained d^{2}. Note that these chords do not normally contain a 5th. In the following bars, IV and V are expanded by means of exactly the same technique; the C♮'s in bar 8 effect a momentary tonicization of the IV. (The B♯ and D♯'s of bar 11 are chromatic passing tones that intensify the motion to the 3rd and 5th of V^{7} and, at the same time, delay their arrival.) This kind of apparent 7th—a (ii^{7}) produced by a passing motion in 3rds or 10ths against a sustained Î—occurs rather frequently as a means of expanding tonic harmony.

25-24 *Beethoven, Missa Solemnis, Op. 123, I*



Example 25-25, by contrast, shows a much more unusual apparent 7th, though it too results from contrapuntal motion against an upper-voice pedal. The final tonic chord contains a Picardy 3rd, E♮, in the soprano. The major 3rd is sustained as a pedal, while the lower voices decorate the tonic with a plagal progression, iv-I♮. The coincidence of the F-minor chord and the held E♮ produces an apparent minor–major $^{7}_{5}_{3}$.

25-25 *Chopin, Mazurka, Op. 25/3*



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POINTS FOR REVIEW

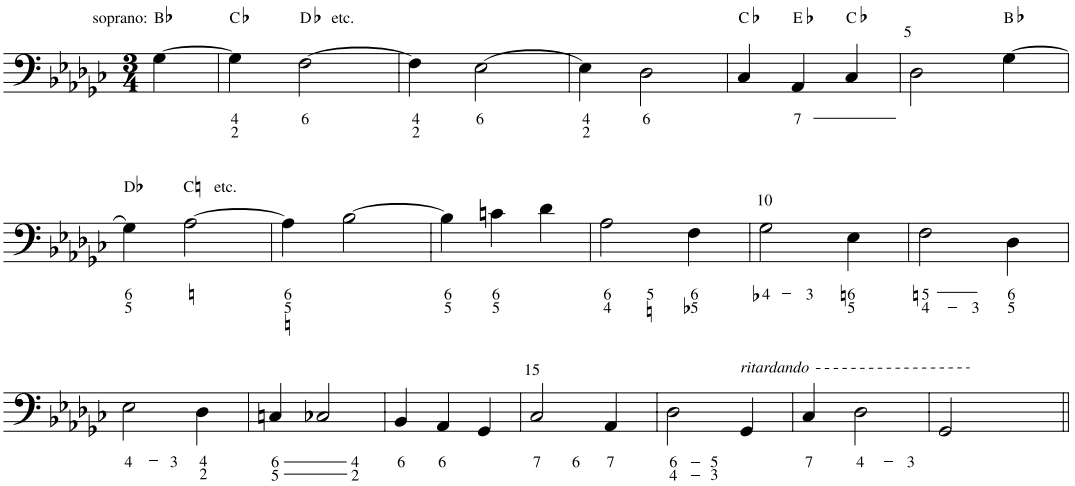
1. Seventh chords often occur in sequence. Those based on descending 5ths are the most frequent.
2. Possibilities with roots descending by 5th include
   a. 7-7
   b. 7-$\frac{5}{3}$
   c. $\frac{6}{5}$-$\frac{5}{3}$
   d. $\frac{4}{3}$-$\frac{5}{3}$
   e. $\frac{4}{3}$-$\frac{7}{5}$
   f. $\frac{4}{2}$-$\frac{6}{3}$
   g. $\frac{4}{2}$-$\frac{6}{5}$
3. Sequences based on descending 3rds are less frequent but possible.
4. $\frac{5}{3}$-$\frac{6}{5}$ is an important variant of the ascending 5-6 series; the 5th of $\frac{6}{5}$, often in the soprano, is prepared indirectly in a lower voice.
5. Nonsequential applications of these voice-leading techniques may occur.
6. More complex treatment of the 7th and its resolution may occur in instrumental style:
   a. The resolution of the 7th may be transferred into another voice.
   b. The resolution of the 7th may be delayed.
   c. The 7th may be extended.
7. A larger harmonic complex can consist of ♮VII^7 leading to a position of V^7, usually V$^6_5$.
8. Apparent seventh chords resemble real seventh chords but function differently. Some frequent examples:
   a. $\frac{5}{3}$ plus added 6th becomes apparent $\frac{6}{5}$
   b. $\frac{6}{3}$ plus added 4th becomes apparent $\frac{4}{3}$
   c. $\frac{5}{3}$-$\frac{4}{2}$-$\frac{5}{3}$ over stationary bass (pedal point)
   d. $\frac{4}{3}$ decorating IV-I progression
   e. Pedal points in the upper voice

EXERCISES

1. Preliminaries. Write short sequential progressions, each in a different key, that illustrate the techniques of Sections 2 and 4 of the Points for Review in this unit.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

2. Figured bass. Keyboard style possible.



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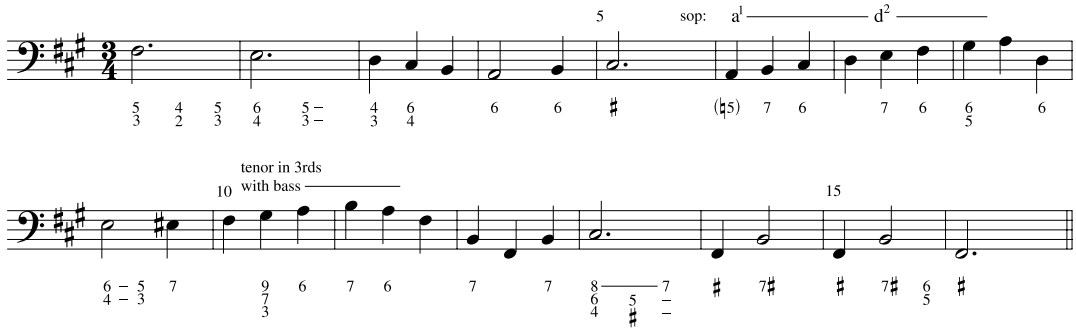
3. Melody. Add a keyboard accompaniment.

4. Figured bass using apparent 7ths. In this exercise, you may use long, sustained tones in the soprano. From measure 6 through the downbeat of 8, the tenor can move in 3rds with the bass *or* the alto can move in 10ths. With the apparent 7ths (but *not* the real 7ths!), doubling the 7th above the bass is OK.



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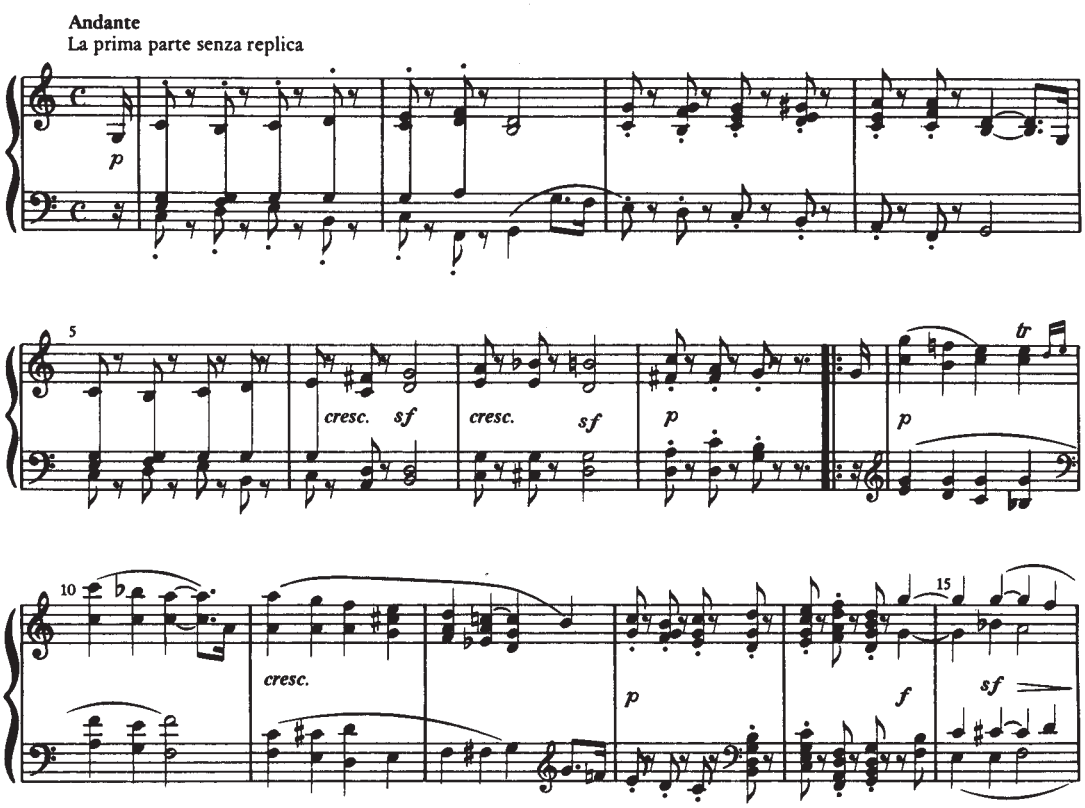
UNIT

26 Applied V and VII

26-1 *Beethoven, Piano Sonata, Op. 14/2, II*

In the designation "applied V and VII," the VII stands for chords built on the 7th scale degree (leading-tone or subtonic chords).

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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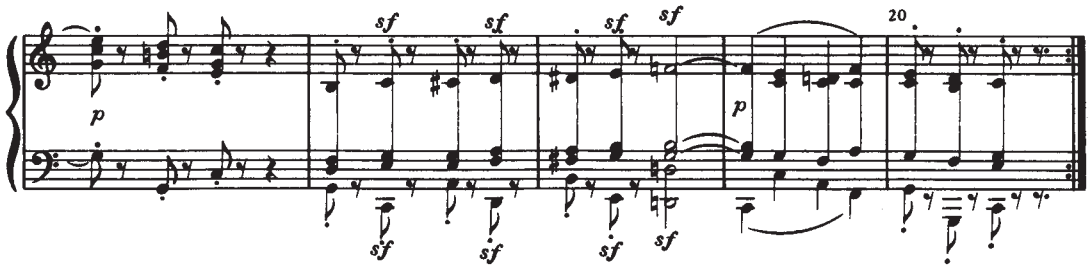
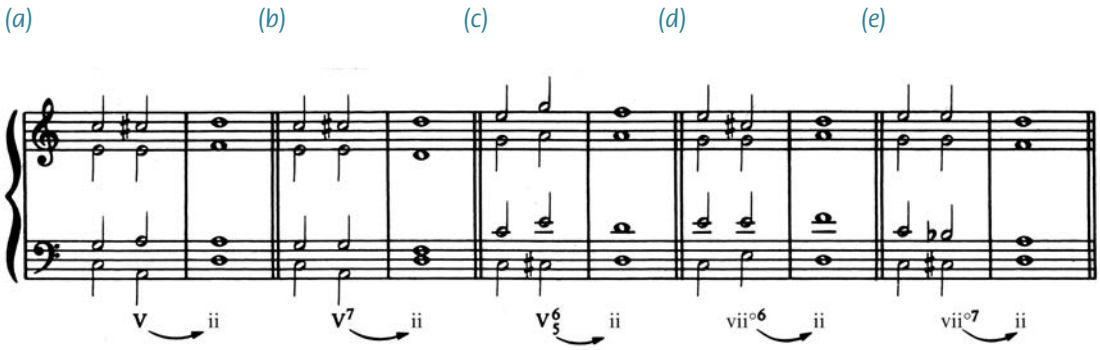


Applied Chords

1. *New Usages.* Example 26-1, the theme from a variation movement by Beethoven, contains many applied-chord usages, only some of which we know from Unit 15. In bar 3, the soprano G♯ functions as a leading tone to A; the chord forms V^4_3 of vi (V^4_3 ⌣ vi). In bar 7, the applied chord tonicizes V, but it is a diminished 7th (vii^{o7} ⌣ V), a chord not presented in Unit 15. In this unit, then, we shall discuss some new kinds of applied chords as well as new goals and new voice-leading techniques. But before you go on, review Unit 15, Sections 3 and 4.

The possibilities for applied chords include V and its inversions, V^7 and its inversions, vii^{o6} and vii^{o7} (vii^{ø7}) and its inversions (diminished moving to either minor or major triads, half-diminished moving to major only). Example 26-2 shows some of these possibilities. Note that procedures of voice leading and chord construction follow those for normal V and vii^{o6}. In particular, remember that the temporary leading tone is *not* doubled.

26-2 *applied chords*



Sometimes an applied chord connects two statements of its "tonic." In our Beethoven theme, the chord on the second beat of bar 10 passes from IV^6 to IV in the same way that V^4_3 passes from I^6 to I in bar 9. Similarly, the fourth beat of bar 11 contains vii^{o6} of ii passing between ii and ii^6; again, the voice leading is exactly the same as if the D-minor chord were really a tonic.

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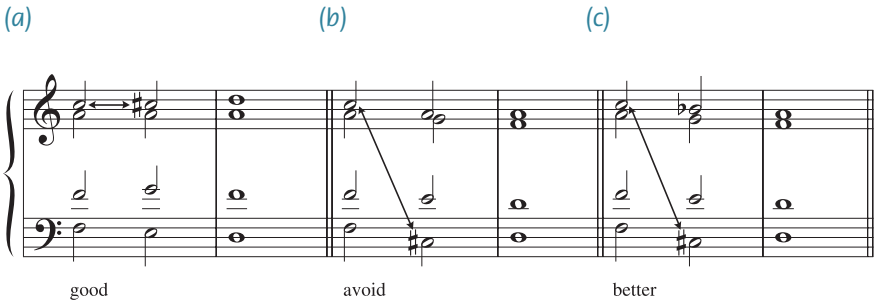
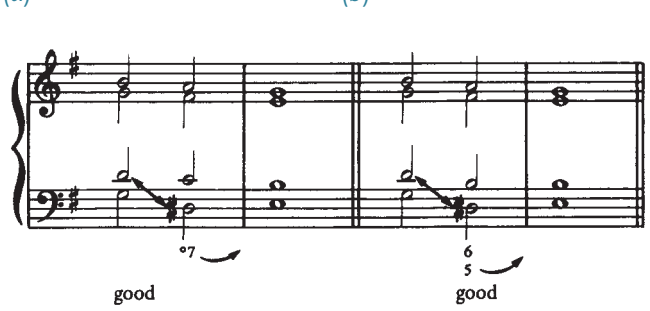
2. *Cross Relations.* The chromaticism associated with applied chords can easily lead to cross relations (Unit 16, Section 5 and Unit 24, Section 8). In simpler textures, it is usually best to keep the chromatic progression in a single voice (Example 26-3a). The harshest cross relations—those between the outer voices—should be avoided except when the soprano moves by step. Compare Example 26-3b with Example 26-3c.

26-3 *chromaticism and cross relations*



Sometimes, however, cross relations are quite tolerable. In progressions containing applied V_5^6 or vii°7, the active character of the leading tone in the bass makes up for any slight harshness. Example 26-4 illustrates the two conditions for success:

1. Keep the cross relation between an inner voice and the bass—don't involve the top voice.
2. Avoid unnecessary leaps in the upper voices, especially in the soprano.

26-4 *acceptable cross relations*

Cross relations in the same register and between adjacent upper voices have a mild effect and occur frequently, especially in keyboard style (Example 26-5).

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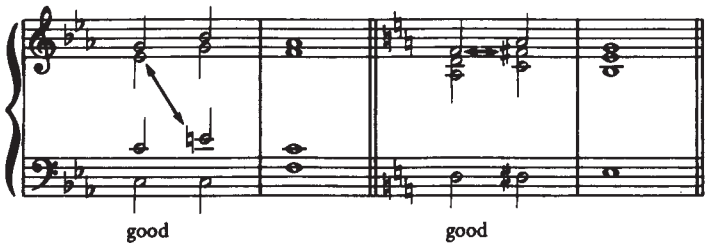
26-5 *chromatic succession in the same register*

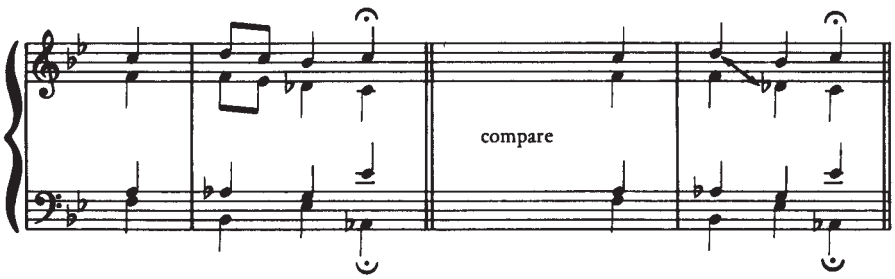
(a) *(b)*



Passing tones (or passing chords) soften the effect of cross relations. Compare Example 26-6a, from a Bach Chorale, with Example 26-6b, a version from which we have removed the passing tones.

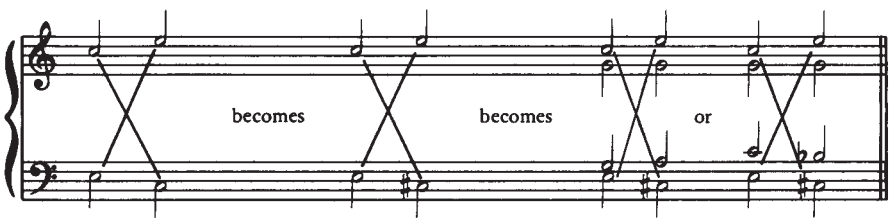
26-6 *passing tones and cross relations*

(a) Bach, Chorale 279 *(b)*



A cross relation—even between outer voices—can be logical and beautiful when it results from a *chromaticized voice exchange,* as in Example 26-7.

26-7 *chromaticized voice exchange*



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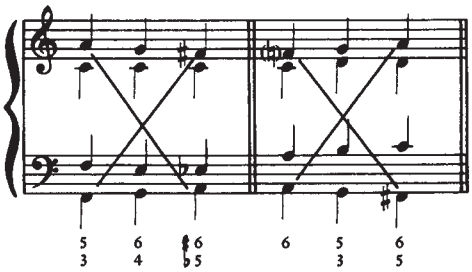
Its harshness can be further softened if the chords are connected by a passing chord. The most frequent possibility is a $\frac{6}{4}$ (Example 26-8a), but a $\frac{5}{3}$ (as in Example 26-8b) is also possible.

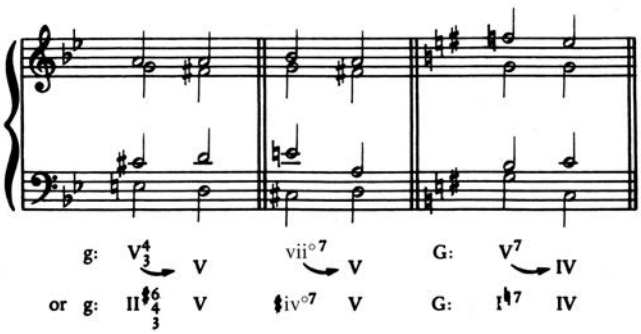
26-8 *voice exchange with passing chord*

(a) $\frac{6}{4}$ *(b)* $\frac{5}{3}$



3. ***Applied Chords as Altered Diatonic Chords.*** Sometimes applied chords function as altered forms of the triads and seventh chords that normally occur within a key. Example 26-9 shows two analytic notations for the same progression, one as applied chords related to the V that follows and the other as altered functions of the tonic key. Either label is correct; one points to a local meaning of the chord, the other to a longer-range meaning. Only the larger context can help us determine which meaning is the more pertinent to a particular case. In general, chords that mainly lead into broader harmonic connections—for example, replacing ii or IV in an important cadence—might well be heard primarily as altered harmonies within the main key and only secondarily as applied chords. See Example 26-13.

26-9 *applied chords as altered diatonic chords*

(a) *(b)* *(c)*

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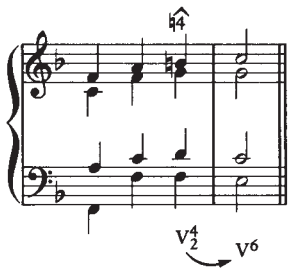
Chords Applied to V

4. **Altered ii and IV.** The most important applied chords are those that lead into and intensify dominant harmony. All chords applied to V are alterations of ii or IV; all contain ♯$\hat{4}$—probably the most frequent chromatically altered tone. The chromaticism and the tonicizing character of these applied chords make them much more unstable than the corresponding diatonic forms of ii and IV and significantly increase their drive to the dominant. In fact, these chords may be considered *chromatic intermediate* harmonies; composers often extend and intensify passages leading to cadences by using first a diatonic and then a chromatic form of ii or IV.

5. **♯$\hat{4}$ in an Upper Voice.** The vii^{o6} of V often supports ♯$\hat{4}$ in a rising soprano line, $\hat{3}$-♯$\hat{4}$-$\hat{5}$. Review Example 15-4 and the accompanying text (Unit 15, Section 5). If a root-position V is not needed for $\hat{5}$, V^4_2 of V makes a good support for ♯$\hat{4}$ (Example 26-10).

26-10 *raised $\hat{4}$ supported by applied V^4_2*



The vii^{o6} (or V^4_3) of V can be very useful in harmonizing $\hat{6}$ in a bass line that descends from I to V; a passing V^6 makes possible a stepwise line. The beginning of a G-major Chaconne by Handel illustrates; the 7-6 suspension into the applied vii^{o6} is an almost invariable addition to this progression (Example 26-11a). The progression (including the suspension) is the usual major-mode equivalent of the descent from tonic to the Phrygian cadence in minor that we showed in Example 19-12.

Example 26-11b, a passage from a Chopin Etude, shows V^4_3 of V, another applied chord built on $\hat{6}$ in the bass. In the Handel excerpt in Example 26-11a, the applied vii^{o6} is part of a descending motion from I to V; in Chopin's progression, the applied V^4_3 develops from ii^6_5 through a chromaticized voice exchange (Example 26-11c). Notice that the first intermediate harmony is actually IV, which is introduced with a V^7 of IV in bar 6 (or $I^{♭7}$; compare Example 26-19). Chopin, therefore, begins the intermediate "area" of his phrase with a IV triad, expands it with another diatonic but dissonant ii^6_5, and finally concludes the area with the *chromatic* intermediate V^4_3 of V (notice how A♯—the new leading tone—is anticipated in the right hand's grace note in the preceding measure).

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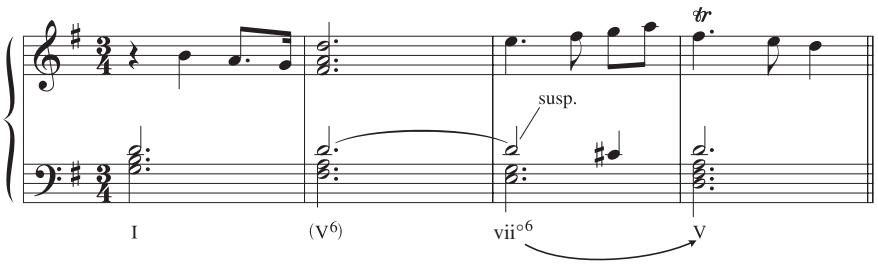
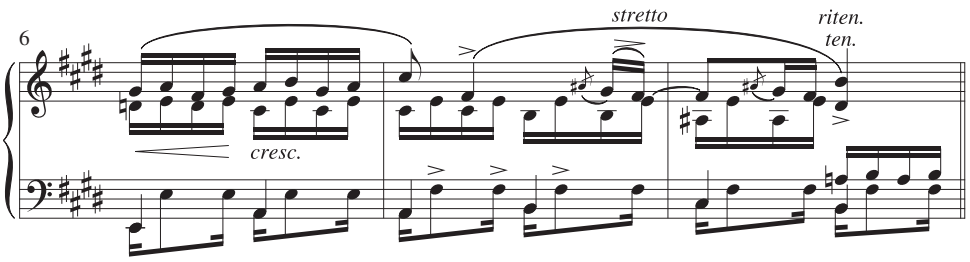
This process of expansion—beginning diatonically, adding dissonance, and concluding chromatically—increasingly heightens the expectation for the arrival of V, which marks the conclusion of the phrase. Note here Chopin's use of V^7 at a half cadence, which is not common in the Classical period but is idiomatic of many cadences in nineteenth-century music.

26-11 *vii°6 (or V^4_3) of V*

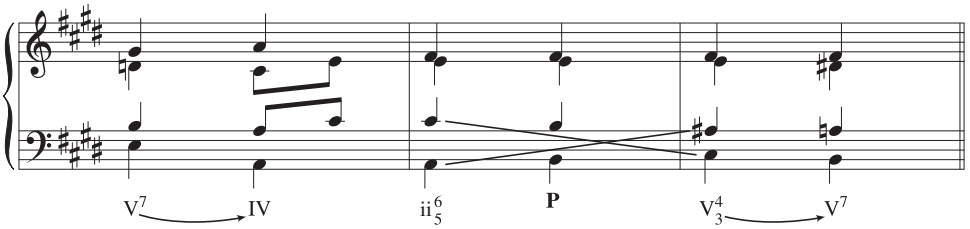
(a) Handel, Chaconne in G with 62 variations



(b) Chopin, Etude, Op. 10/3



(c) reduction of Chopin, bars 6–8



6. $\hat{\sharp 4}$ in the Bass. Perhaps the most important function of chords applied to V is to emphasize dominant harmony (usually at a cadence) by means of a rising half-step progression in the bass ($\hat{\sharp 4}$-$\hat{5}$). The typical chords are V^6_5 of V (already presented in Unit 15, Section 5) and vii^{o7} of V. As in Example 26-12, $\hat{\sharp 4}$ is most often a chromatic passing tone leading from IV, ii^6, or ii^6_5 to V, possibly embellished by $^6_4$.

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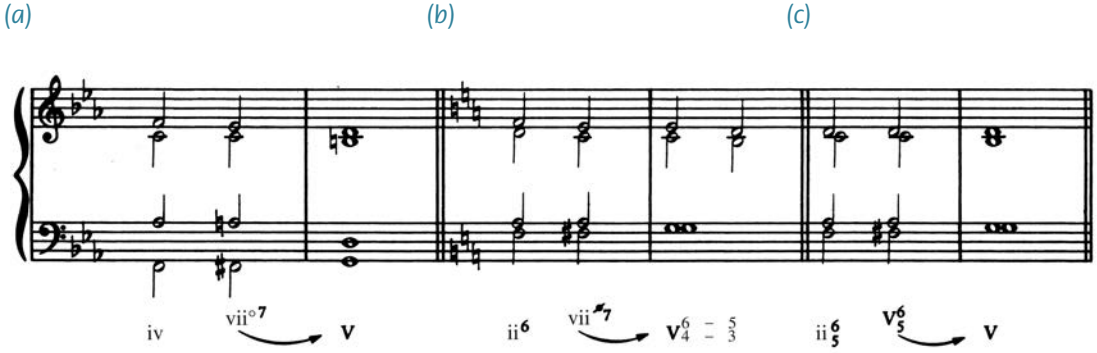
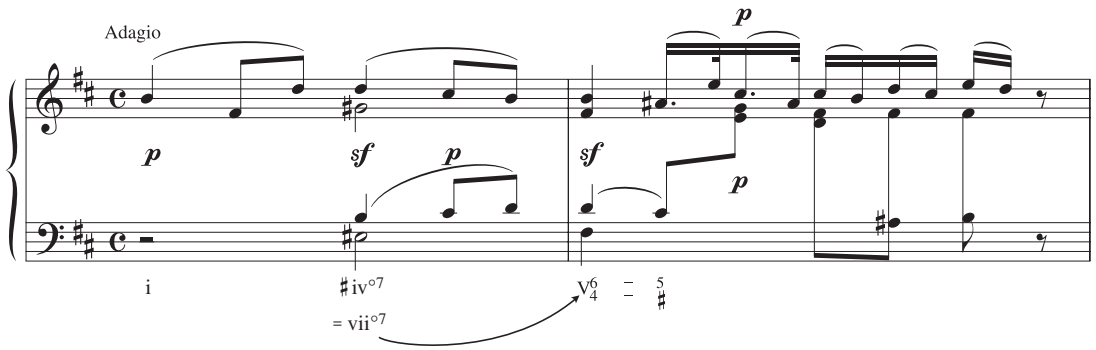
26-12 *♯4̂ in bass*



Sometimes, ♯4̂ in the bass replaces ♮4̂ altogether, as in Example 26-13.

26-13 *Mozart, Adagio, K. 540*



Moving directly to V, applied vii°7 and vii⌀7 create difficulties in voice leading when they support 3̂ (or ♭3̂) in the soprano, just as with diatonic IV7 or iv7 (review Example 13-20). Parallel 5ths (with ⌀7) and rather obtrusive hidden 5ths (°7) are the unpleasant consequences of bringing all the upper voices down by a step (Examples 26-14a and b). And what is a possibility with vii°7 moving to I (or i)—doubling the 3rd of the chord of resolution—turns out to create still another difficulty—a doubled leading tone (Example 26-14c). Bach's solutions to this problem are shown in Examples 26-14d–f.

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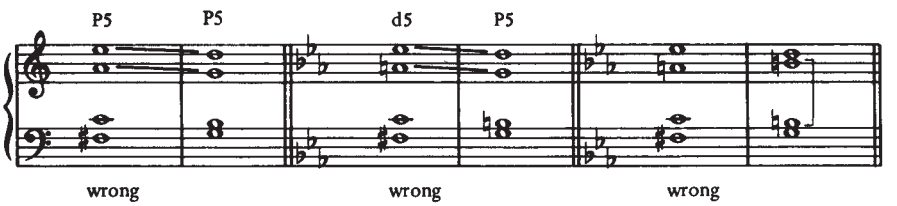
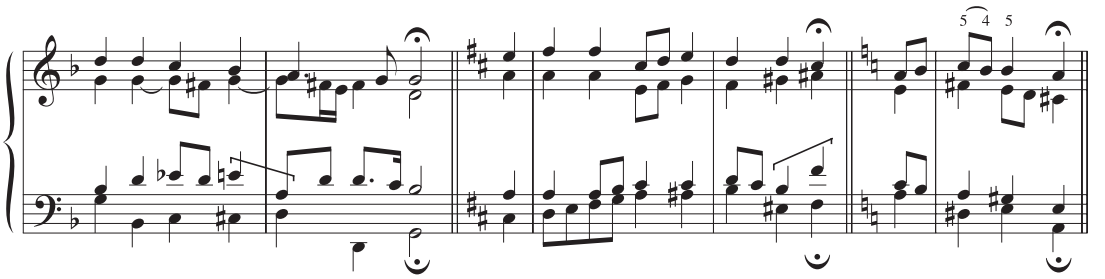
26-14 vii°7 — V: voice-leading difficulties

(a) (b) (c)

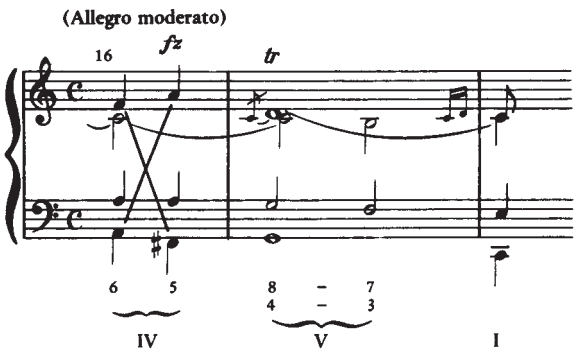


(d) Bach, Chorale 237 (e) Bach, Chorale 336 (f) Bach, Chorale 146

5 4 5
(Tenor skip prevents hidden 5ths; compare diatonic iv7–V.)
(The skip 1̂–5̂ in tenor prevents doubled leading tone.)
(Ant. prevents hidden 5ths.)

7. Chromaticized Voice Exchanges Preceding V. As we mentioned, composers sometimes extend an intermediate harmony by using a diatonic followed by a chromatic version of ii or IV. A very common procedure involves chromaticized voice exchanges, sometimes with ♯4̂ in the bass and sometimes with ♯4̂ in an upper voice. These exchanges are particularly frequent in passages that connect IV with V (Example 26-15).

26-15

(a) Haydn, String Quartet, Op. 74/1, I



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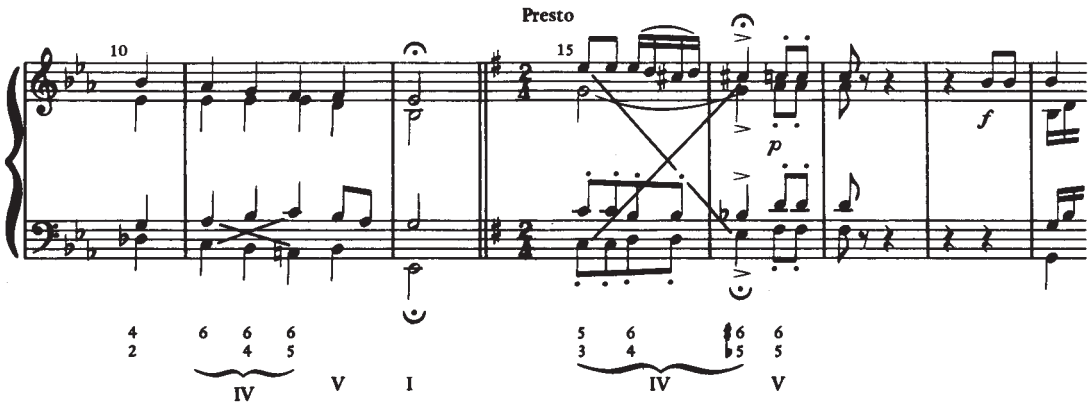
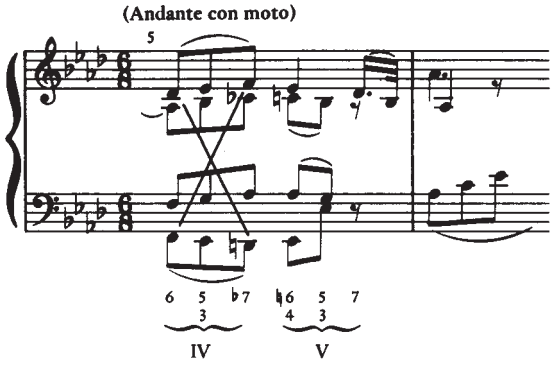
(b) Bach, Chorale 108

(c) Haydn, String Quartet, Op. 54/1, IV



(d) Mozart, String Quartet, K. 428, II



8. *Deceptive Cadences.* Sometimes a chord applied to V appears where one would expect a cadential tonic; the applied chord, therefore, participates in a kind of deceptive cadence (Example 26-16). The soprano normally leads to $\hat{1}$ over the applied chord; the bass moves by step, either down to $\sharp\hat{4}$ (vii$^{\circ 7}$ or V^6_5 of V) or up to $\hat{6}$ (V^4_3 or vii$^{\circ 6}$ of V—major only). As we know, deceptive cadences usually lead on to authentic ones, their function being to delay rather than to cancel a harmonic resolution. In these progressions, therefore, the applied chord will lead on to a restatement of the cadential V and on to an authentic cadence made stronger by the immediately preceding tension.

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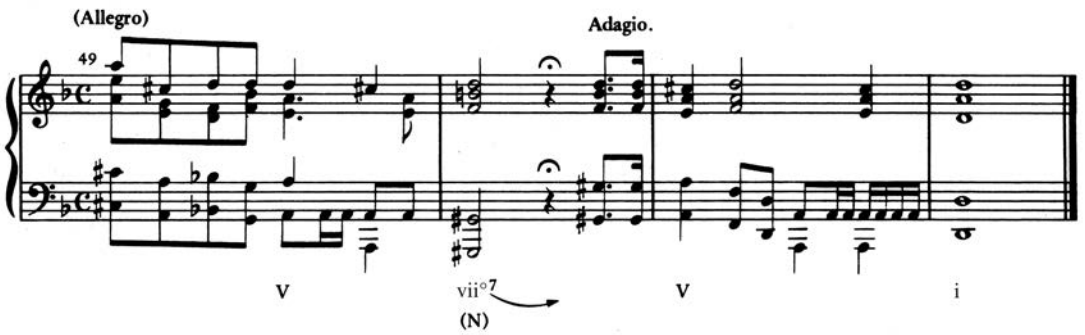
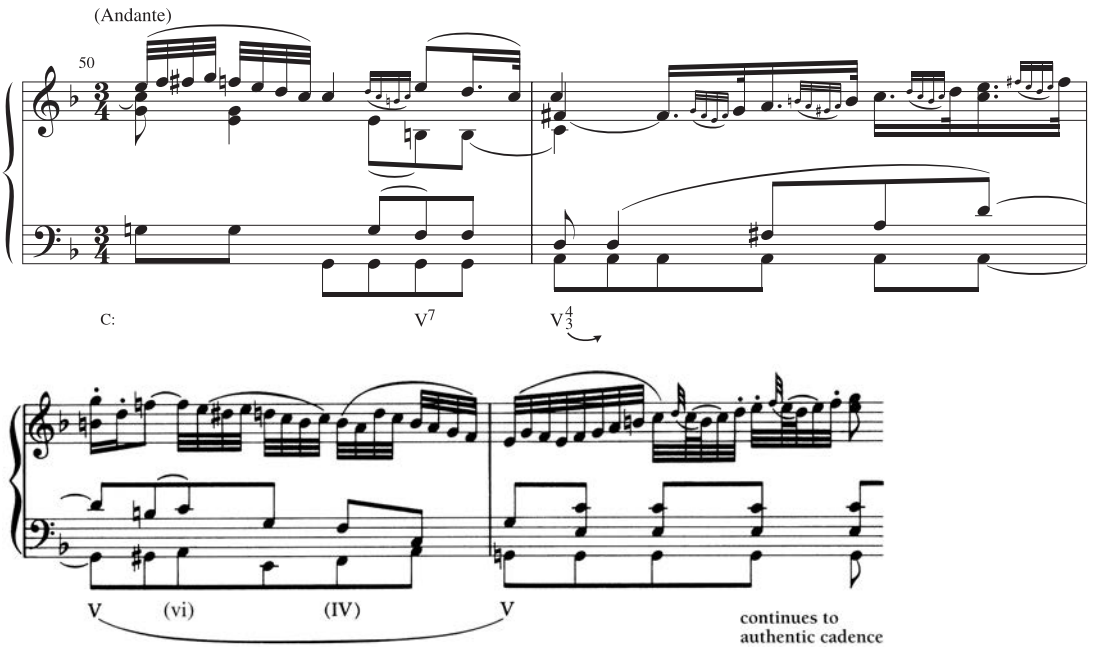
26-16

(a) Mozart, Kyrie, final bars *(from Requiem, K. 626)*

(b) Mozart, String Quintet, K. 515, III



Other Applied Chords

9. Chords Applied to IV. In major, V of IV is the tonic triad itself. To identify the chord as an applied dominant, we must add ♭$\hat{7}$ (Example 26-17b). In minor it is necessary to raise $\hat{3}$ to transform i into V of iv (Example 26-17c).

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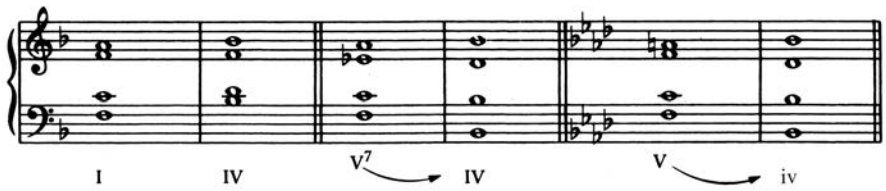
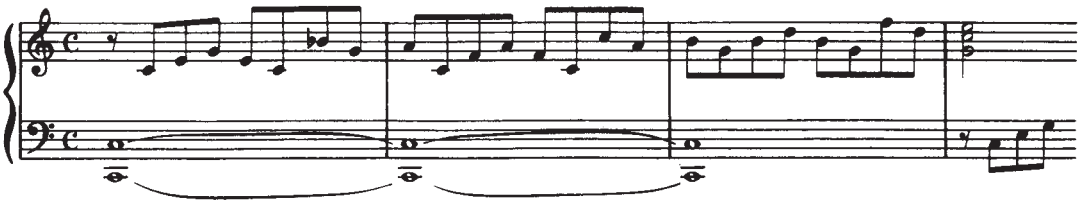
26-17 V → IV

(a) (b) (c)



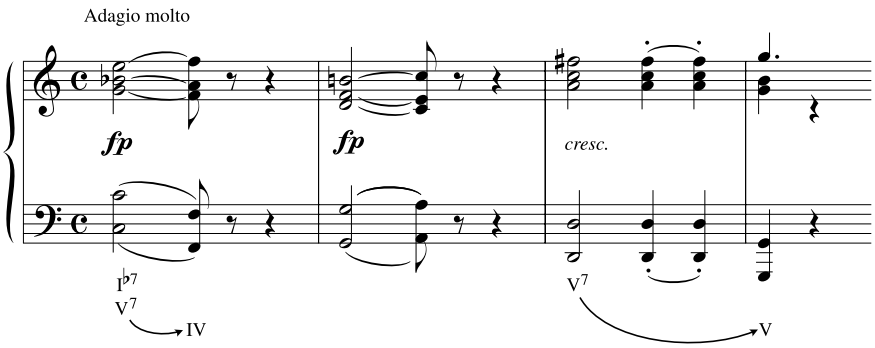
Sometimes a tonic chord becomes V of IV, as in the progression over a tonic pedal shown in Example 26-18. V of IV frequently helps to expand a I-IV-V^7 (or vii°^{7}) -I progression over a tonic pedal.

26-18 Bach, *Little Prelude*, BWV 939



V^7 of IV can also function as $I^{\flat 7}$—a modification of tonic harmony. The celebrated opening of Beethoven's Symphony No. 1 (Example 26-19) most certainly does *not* begin in F major. But it is only partially correct to state that the first chord is V^7 of IV in the key of C. To be sure, that is its function in relation to the next chord. However, once we begin to realize that C must be the tonic, we reinterpret the opening chord and understand it as the tonic. (A perceptive listener will begin to feel C as the tonic in the second bar.)

26-19 Beethoven, *Symphony No. 1, Op. 21, I*



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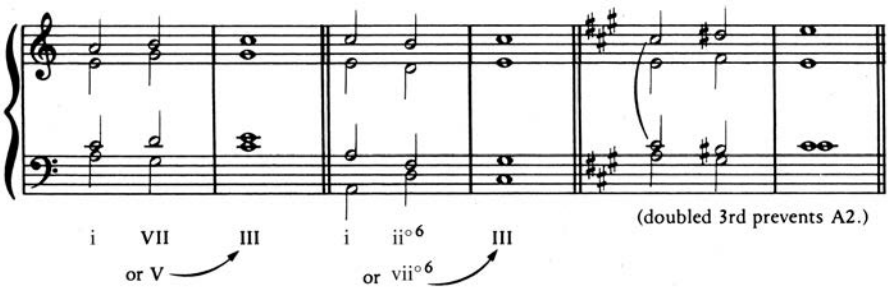
10. *Chords Applied to III.* III in minor is unique in the tonal system in that its applied V, V^7, and vii^{o6} are present as diatonic chords in the key. As was explained in Unit 16, this is one of the reasons why the minor mode tends to gravitate to III. Examples 26-20a and b illustrate. To produce V of iii in major, we must raise $\hat{2}$ and $\hat{4}$ (Example 26-20c).

26-20 *chords applied to III*

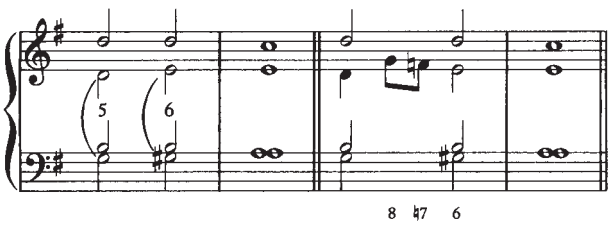
(a) *(b)* *(c)*



11. *Chords Applied to ii in Major.* V of ii and vii^o of ii are possible only in major, for the diminished quality of ii^o in minor prevents it from simulating a tonic. These applied chords frequently connect I and ii, usually with the melodic progression $\hat{1}$-$\sharp\hat{1}$-$\hat{2}$ in the soprano or bass (Example 26-2). Any progression from I through an applied dominant to ii has as its basis the familiar 5-6 technique, as you can see in Example 26-21a. This technique is also inherent in Examples 26-21b and c, where an 8-7 passing motion over I introduces the 6th of the applied $\frac{6}{5}$, a rather frequent substitution for the direct 5-6 progression. (The idiom shown here resembles the progression VII^7-V^6_5-i in minor discussed in Unit 25.)

26-21 *V⌒ii from 5-6*

(a) *(b)*



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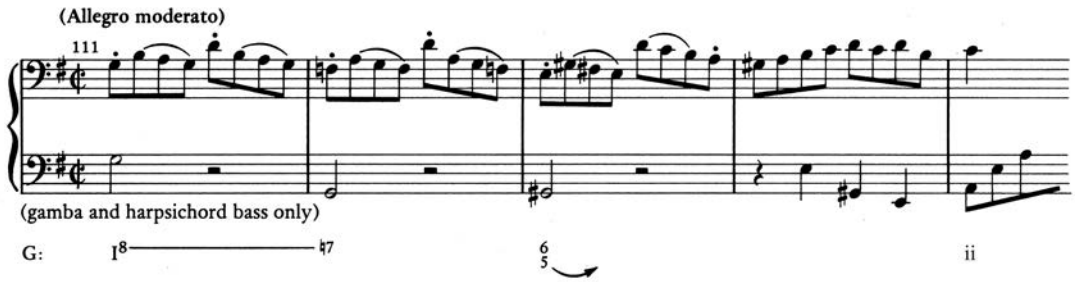
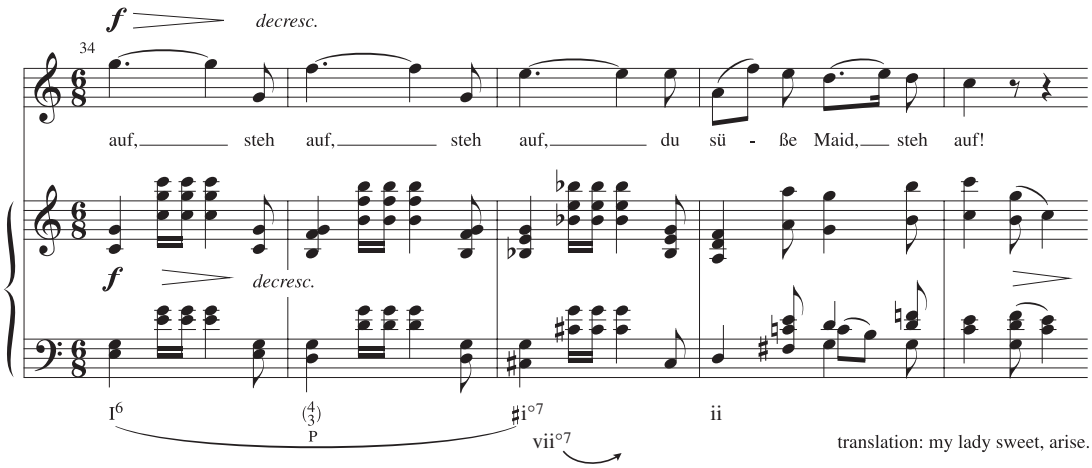
(c) Bach, Gamba Sonata, BWV 1027, II

In major, vii° of ii is an altered I (vii°7 of ii is an altered I7), a relationship that makes it possible to introduce vii° of ii where we would expect to hear a tonic. This happens in bar 36 of Example 26-22; the diminished seventh chord replaces the expected tonic.

26-22 Schubert, "Horch, Horch! Die Lerch," D. 889



12. *Chords Applied to VI (vi).* In minor, V of VI is identical to III; V7 of VI and the various forms of vii° of VI, however, require at least one accidental, ♭$\hat{2}$. In major, V^6_5 (less often V^6) and vii°7 of vi permit a chromatically embellished deceptive cadence (Example 26-23). Why is this not possible in minor?

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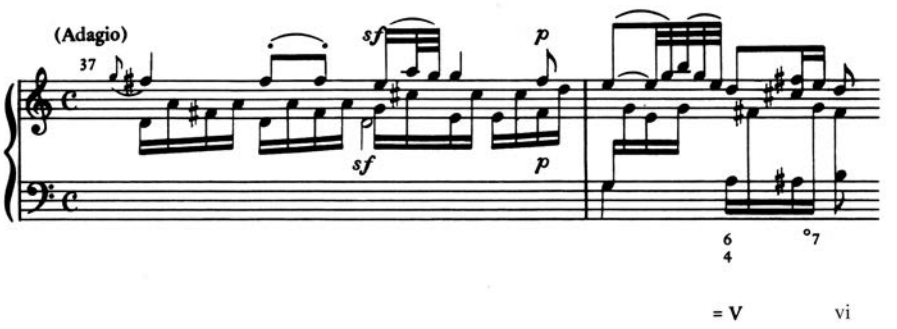
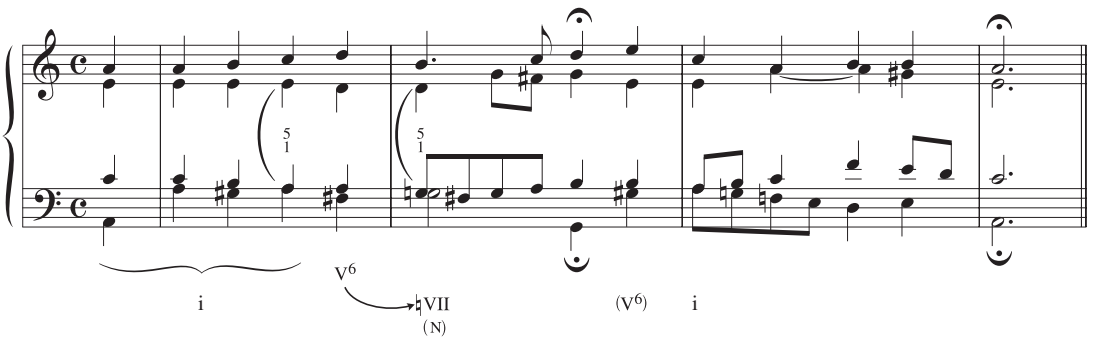
26-23 *Mozart, Fantasy, K. 475*



13. *Chords Applied to VII.* As a diminished triad, vii° in major (like ii° in minor) cannot be tonicized. On the other hand, ♭VII in minor can attract applied chords (Example 26-24). In this excerpt, ♭VII functions as a neighboring chord to i, returning to it through V^6. Note that the applied chord breaks up 5ths and unisons.

26-24 *Bach, Chorale 23*



14. *Irregular Resolutions of Applied Chords.* In a passage from a Schubert Waltz (Example 26-25), a chord occurs that seems to function as V^7 of IV. However, it moves not to IV as expected but deceptively to ii^6. The suspended C♯, which must resolve to B, causes this. Because of the close connection between IV and ii^6, it would not be wrong to regard the dominant seventh on A as a chord that suggests a motion to IV but that moves irregularly to ii^6.

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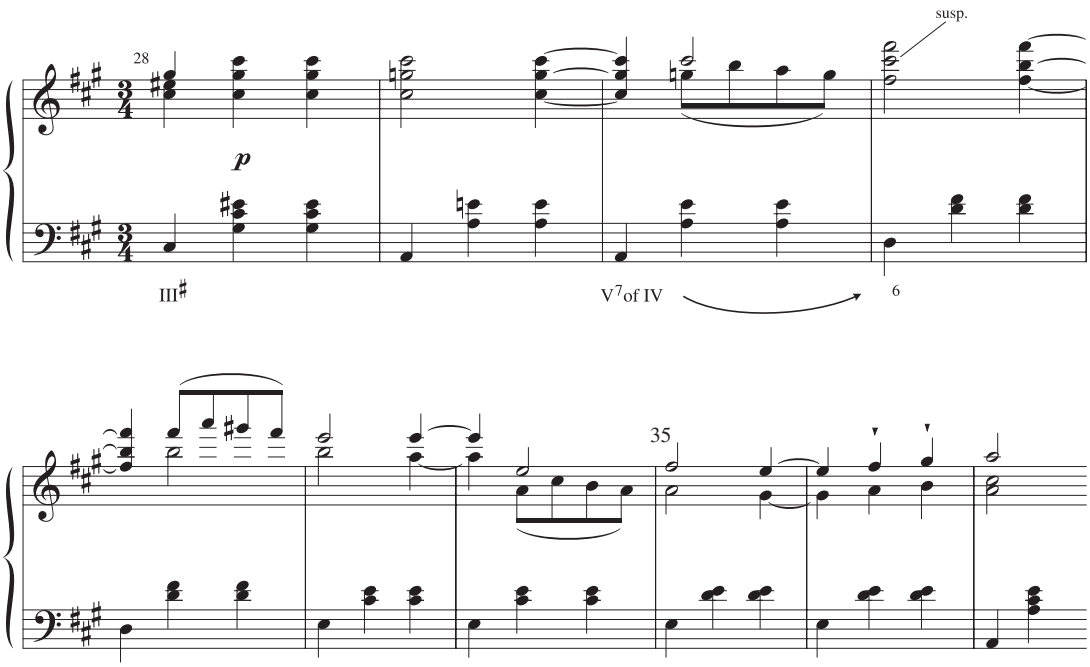
26-25 *Schubert, Valse Sentimentale, Op. 50/13*

15. *Apparent Applied Chords.* Not all chords that appear to function as applied dominants actually do so. Rather frequently a chord that appears to be V (or V^7) of vi moves to IV rather than to vi. The progression is an altered form of I-(iii)-IV, as you can see by comparing Example 26-26 with Example 16-10a, a quotation from the beginning of the same song. As we have seen before, the bass of a seventh chord may move by ascending 2nd to accommodate the resolution of the 7th (review Example 25-2). The B^7 chord on beat 2 of bar 14 (Example 26-26) represents simply an altered form of iii^7 moving up a step to IV. Only if the larger context strongly suggests E minor as a temporary center (and here it does not) should we think of such a progression as a deceptive resolution of an applied dominant (V^7 of vi moving deceptively to IV). Similarly, the III♯ in Example 26-25 is an example of secondary mixture, not of an applied V of vi.*

*Nor is it an applied dominant in Examples 24-10 and 24-11.

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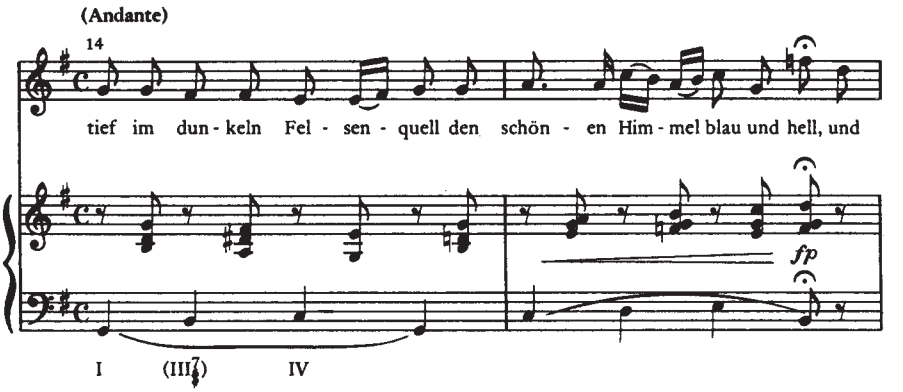
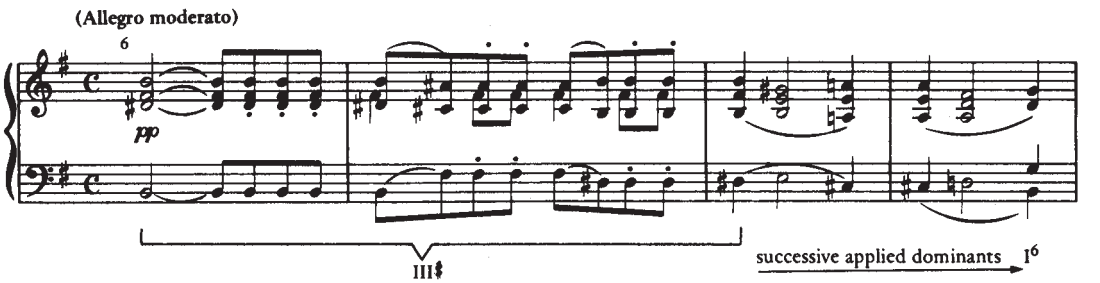
26-26 *Schubert, "Im Frühling"*

translation: . . . deep in the dark mountain spring [I saw] the beautiful sky, blue and bright.

Applied Chords in Sequence

16. *Descending 5ths.* Progressions by descending 5th (or those derived from descending 5ths) contain numerous possibilities for incorporating applied chords because the motion from an applied V to its "tonic" is, of course, by descending 5th. Sometimes, in fact, an extended progression (usually sequential) is chromatically inflected so that each chord (triad or seventh chord) becomes the dominant of the next one. Thus, in Example 26-27, III♯ proceeds to I^6 through a chain of triads, each the dominant of the next.

26-27 *Beethoven, Piano Concerto, Op. 58, I*



In a complete series of descending 5ths, I → I, the inevitable diminished 5th or augmented 4th (major: $\hat{4}$-$\hat{7}$, minor: $\hat{6}$-$\hat{2}$) will prevent the use of an applied dominant, for the dominant–tonic relationship is based on the perfect 5th, not the diminished 5th (Example 26-28). There is nothing incorrect, however, about a progression that mixes successive dominants with other types of motion by descending 5th.

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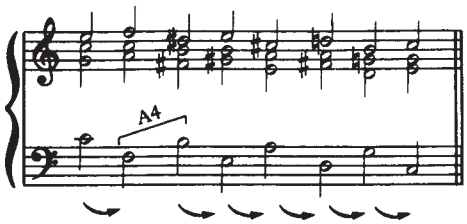
In Unit 25, Section 1, we discussed the benefit of distinguishing models from variants, a procedure that will help you organize and identify the various types of sequences that occur in tonal music. In chromatic textures, we can continue this line of reasoning and refer to *chromaticized* models and variants. The progression in the Beethoven (Example 26-27) therefore represents a chromaticized variant of the descending 5th type, because every other chord appears in $\frac{6}{3}$ position; the progression in Example 26-28, on the other hand, illustrates a chromaticized form of the all root-position model.

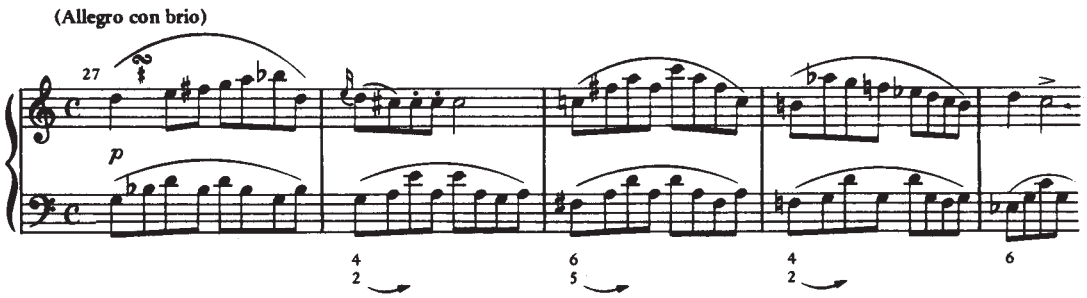
26-28 *successive dominants*



Brief or extended chains of successive applied dominants often contain interlocking seventh chords, as discussed in Unit 25. In Example 26-29a, applied $\frac{4}{2}$ chords alternate with a $\frac{6}{5}$. Several elements of this excerpt are of interest. Brief descending chromatic lines occur in the bass and between the most prominent tones of the soprano (Example 26-29b); such chromatic descents are the almost inevitable result of successive applied V^7's. The two chromatic lines produce a series of consecutive tritone dissonances: A4, d5, A4. These dissonances may look as if they don't resolve, but they don't *sound* unresolved. The reason is that the underlying voice leading (as shown in the reduction) contains the proper resolutions. In the actual progression, the resolutions are modified by contraction, but they are strongly enough implied by context to be sensed as the "background" of the progression.

26-29 *Beethoven, Piano Sonata, Op. 2/3, I*

(a)



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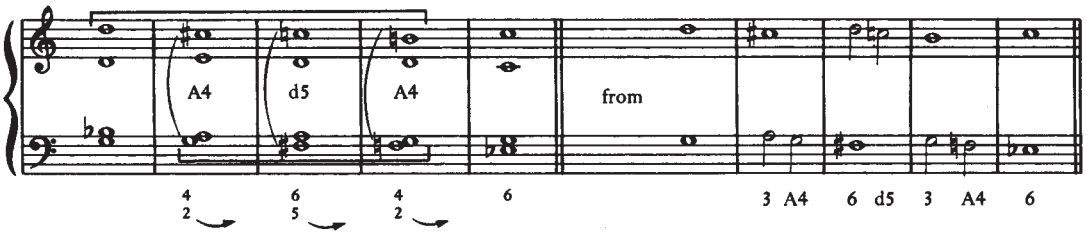
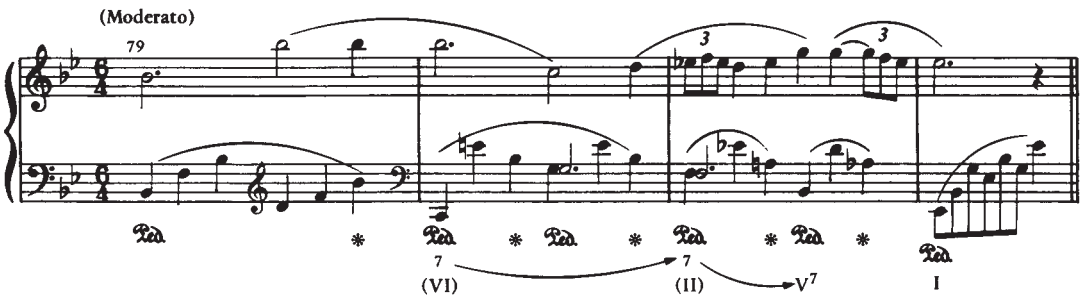
(b) reduction



Successions of applied V^7's often contain alternating $\frac{4}{2}$'s and $\frac{6}{5}$'s, as in Example 26-29. Another frequent possibility is a series of root-position seventh chords (Example 26-30).

26-30 *Chopin, Ballade, Op. 23*



Sometimes a diminished 7th can substitute for the corresponding position of a dominant seventh (Example 26-15c, bar 16).

As we know, a progression by descending 5ths often decorates a descending stepwise line. Applied dominants are easily incorporated into such a progression. In Example 26-31, the basic idea is a stepwise motion down from i to V; the dominant seventh chords applied to VII and VI add to the directional quality and fulfill a voice-leading function as well—they prevent the 5ths and octaves that would otherwise occur between the main chords. In this excerpt, triads alternate with seventh chords (compare Example 25-6).

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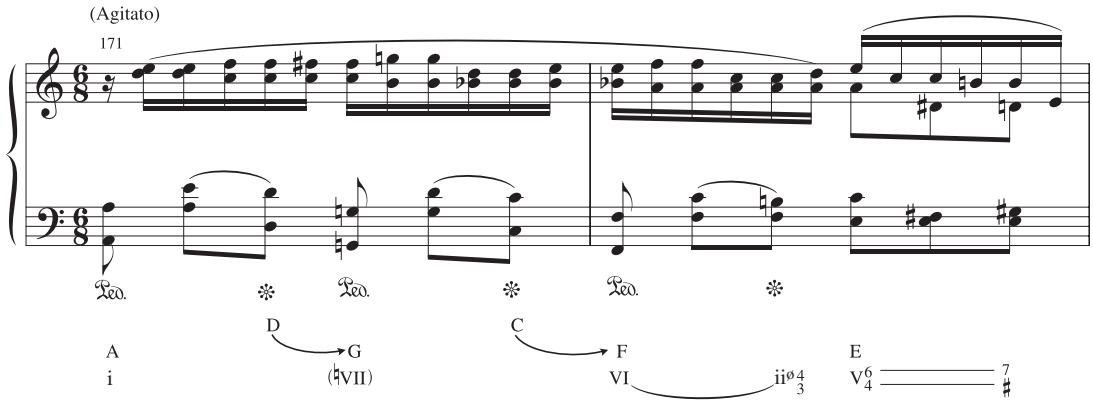
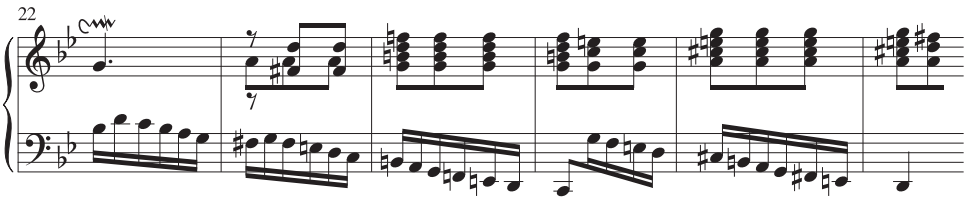
26-31 *Chopin, Ballade, Op. 38*

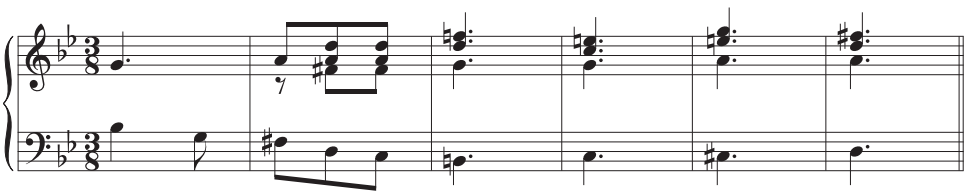


17. *Sequences Based on* 5-6. Stepwise sequential passages based on the ascending 5-6 progression are frequently intensified by chromatic passing tones. In Example 25-6a, we examined the *Fortspinnung* passage from the opening of the Prelude from Bach's G-minor English Suite; remember that it is based on a descending 5th sequence (model), with 7th chords alternating with $\frac{5}{3}$'s. In the following passage (Example 26-32a), Bach uses a chromaticized ascending 5-6 (model) to drive toward the cadence, alternating $\frac{6}{5}$'s with root-position triads (this pattern corresponds to Example 26-33c). As we can see, ascending chromatic lines become a possibility; they produce the strongest effect when they are in the bass or top voice. In all these progressions, the applied chords break up parallel 5ths and octaves.

26-32 *Bach, English Suite No. 3, BWV 808, Prelude*

(a)



(b) reduction

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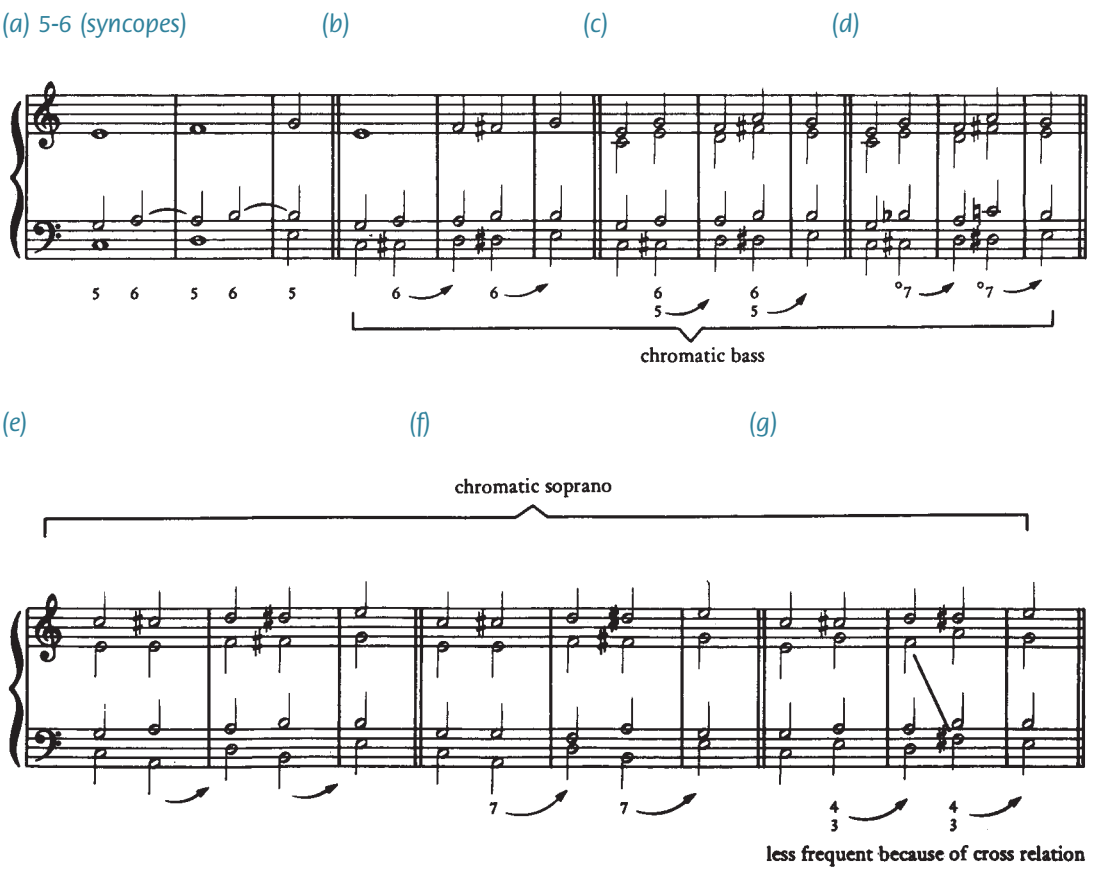
26-33 *sequences based on 5-6*

Examples from the literature abound. Review, for example, two previously cited excerpts that use this technique: Example 18-1, bar 6, and Example 26-1, bars 17–18. In the latter, two points require comment. Beethoven places the applied dominants on the metrically strong beats and the "tonics" on weak beats—the reverse of what would normally occur. The rhythm implied by the harmony, therefore, contradicts the meter—a conflict humorously underscored by the *sf* signs. Moreover, the 7ths of the applied chords ascend instead of resolving down, with the resolutions transferred into the next lower voice (review Unit 25, Section 9).

Until now, sequences rising from V to i in minor have been unavailable to you. With applied dominant chords added to your vocabulary, such passages become unproblematic. They can be used in connection with a deceptive cadence, the VI forming part of a passing motion from V up to i, as in Example 26-34. Note how the chromatic bass line is summarized in diminution (eighth notes) in the top voice of bar 81.

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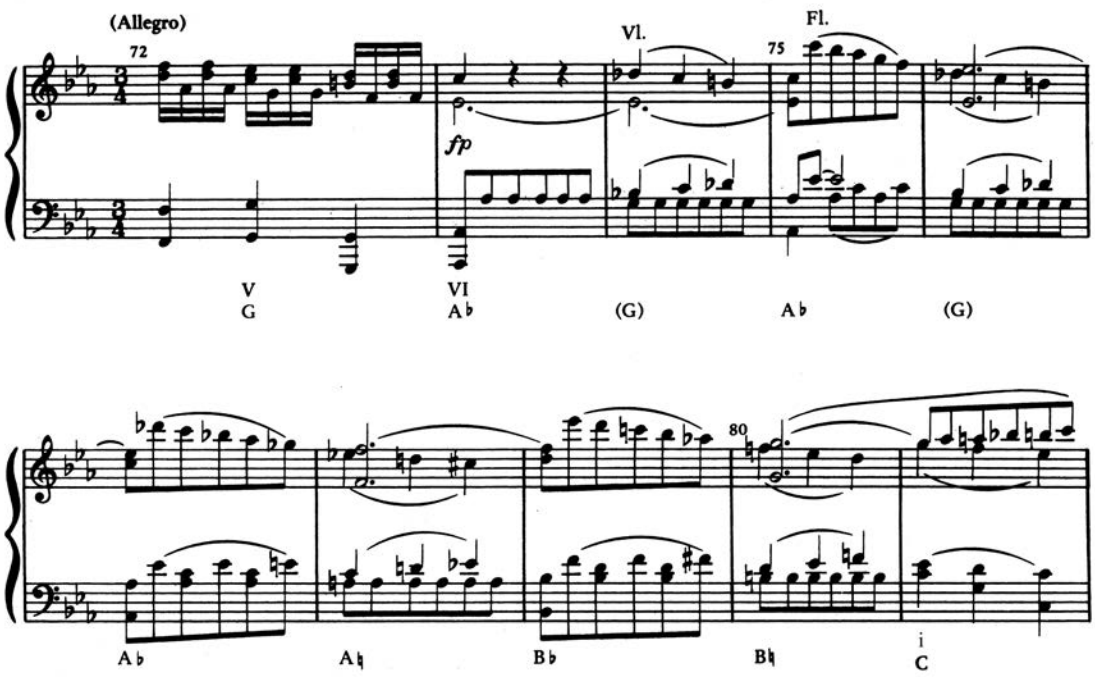
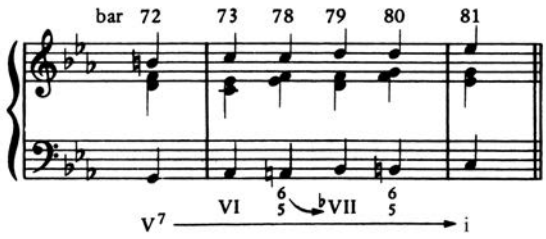
26-34 *Mozart, Piano Concerto, K. 491, I*

(a)



(b) reduction

18. *Sequences Rising in 3rds.* Because of the nondirectional nature of immediate root progression by ascending 3rd, sequential passages moving up in 3rds normally require interpolated chords to contribute a feeling of forward motion. Applied dominants, usually $\frac{5}{3}$, 7, or $\frac{6}{5}$, are the most useful chords for this purpose. These sequential passages usually begin on I and, most often, lead to V (sometimes, in minor, i leads to ♮VII). In Example 26-35, the applied dominants are decorated by $\frac{6}{4}$'s.

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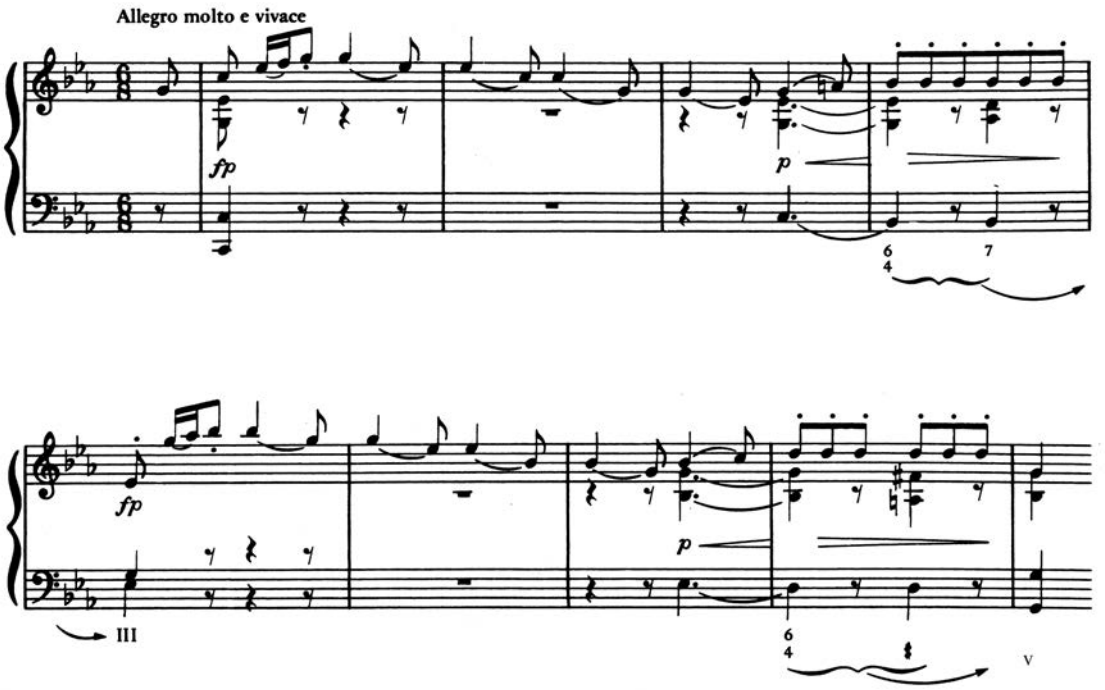
26-35 *Beethoven, String Trio, Op. 9/3, III*

19. *Descending 5-6 Sequences (Falling in 3rds).* These are chromatic versions of the 5-6 progression with descending bass shown in Examples 18-15 through 18-19. In Example 26-36, which is closely related to the diatonic model (because the bass descends by step), $\frac{4}{3}$'s function as passing chords within a motion in 3rds from vi down a 9th to V, thus, vi-(IV-ii-vii°)-V (compare to Example 18-15, where every other chord is in $\frac{6}{3}$ position). Note how the $\frac{4}{3}$ chords make possible parallel 10ths in the outer voices. All the $\frac{4}{3}$'s are applied dominants except the one before vii° (why isn't it?). In this example (and in others using $\frac{4}{3}$'s), the bass line is completely stepwise and diatonic. As a result the applied $\frac{4}{3}$'s attract very little special attention; their contrapuntal meaning as passing chords outweighs in importance the rather weak harmonic implication of V^7-I. Incidentally this sequence is unusual in that it persists through five statements of the initial idea, with only minimal variation. The reason here is a dramatic one—this is a moment of great comic suspense, as reference to the libretto and score will reveal.

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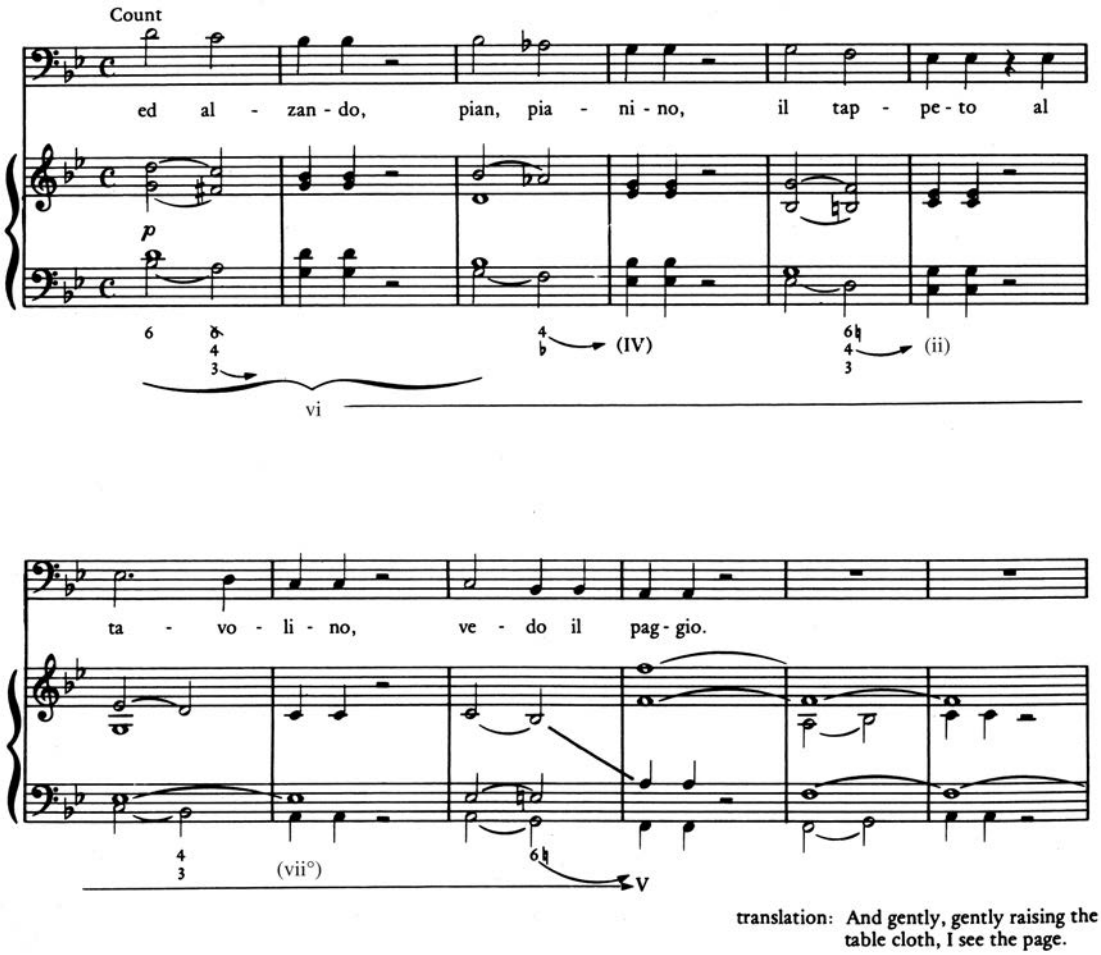
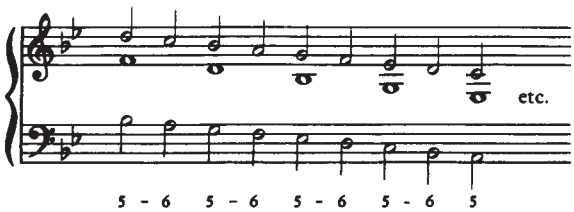
26-36 Mozart, *Marriage of Figaro*, K. 492, Act I

(a)

translation: And gently, gently raising the table cloth, I see the page.

(b) compare

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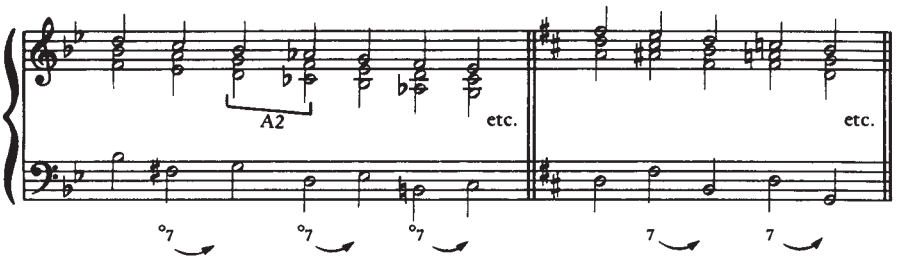
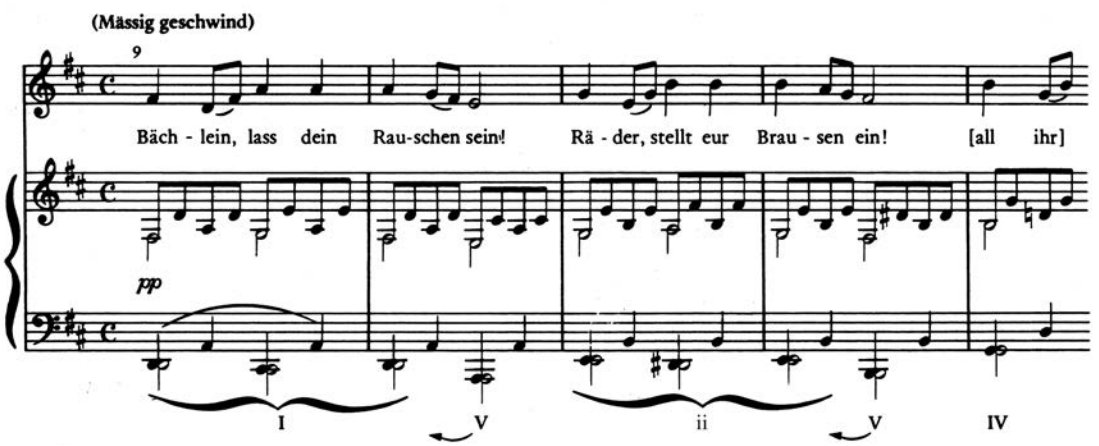
A frequent variant of this sequence replaces the $\frac{4}{3}$'s with $\frac{6}{5}$ or °7 chords, as in Example 26-37a. Applied dominants in root position ($\frac{5}{3}$ or 7) can also occur (Example 26-37b); without figuration, however, the completely disjunct bass produces a choppy effect.

26-37 *descending 3rds*

(a) *(b)*

Note: Sequences in both rising and falling 3rds will sometimes require an augmented 2nd!

20. Applied Dominants after Main Chords. Sometimes—especially in a rising progression with ascending 5ths—a chromatic alteration produces the effect of an applied chord *following* its main chord. Thus, in Example 26-38, bar 12, the D♯ turns the B chord into a V of the preceding ii. Such "back-relating" applied dominants are usually triads: $\frac{5}{3}$'s as in this example, or $\frac{6}{3}$'s as in Example 18-8, which contains a similar underlying progression.

26-38 *Schubert, "Mein!"* *(from Die schöne Müllerin, D. 795)*

translation: Brook, stop your murmuring! Millwheels, stop your roaring!

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POINTS FOR REVIEW

1. Any major or minor triad may be preceded by an applied V or VII (triad or seventh chord). Sometimes an applied chord connects two statements of its own "tonic." Much less frequently, an applied chord follows its tonic without leading into another statement of it.
2. Possible applied chords are
   a. V or V^7 and their inversions.
   b. vii^{o6} (less often $vii^{o}{}_{3}^{5}$).
   c. vii^{o7} and its inversions.
   d. $vii^{ø7}$ and its inversions, applied to major triads only.
3. Rule of doubling: Don't double the temporary leading tone or the 7th.
4. Cross relations are generally avoided in simple textures. Possible exceptions are
   a. when the bass has the leading tone of the applied chord (V_{5}^{6} or vii^{o7}).
   b. when the cross relation is between adjacent upper voices *in the same register.*
   c. when the soprano moves by step.
   d. when the cross relation is broken up by passing tones or a passing chord.
   e. when there is a chromaticized voice exchange.
5. Avoid doubled leading tones resolving vii^{o7} of V and $vii^{ø7}$ of V. See Example 26-14 for solutions.
6. Applied V and vii^{o} often function as passing chords, particularly in sequences.
7. In sequences with descending 5ths, a chain of applied chords is possible, each sounding like the dominant of the next.
8. Melodic augmented 2nds occasionally arise in sequences in rising or falling 3rds.

EXERCISES

1. Preliminaries (without sequences). Write phrases beginning and ending with I (or i), as described below.

Key	*Progression*
a. g	$ii^{ø}{}_{5}^{6}$ through an applied °7 to $V_{4\text{-}3}^{6\text{-}5}$.
b. A♭	Tonic pedal using $I^{♭7}$ as V^7 of IV.
c. E	V_{2}^{4} moves to vii^{o6} of ii.
d. B	Chromatically embellished deceptive cadence using an applied dominant to vi.
e. f	Applied V to ♭VII followed by a convincing motion to i.

2. Preliminaries (with sequences). Write phrases beginning with sequential progressions as described below and ending with a perfect authentic or semi-cadence.

Key	*Progression*
a. g	V → i, up by 2nds using $_{5}^{6}$ chords.
b. F♯	Rising 3rds to V using °7 followed by deceptive cadence chromatically embellished.
c. f♯	Rising 3rds to ♮VII followed by motion to i.
d. d	Descending 3rds with $_{3}^{4}$ chords i → iv followed by a cadence.
e. E♭	Descending 3rds with dominant 7th I → ii followed by a cadence.
f. f	Descending 5ths with interlocking 7ths i → VI followed by a cadence.

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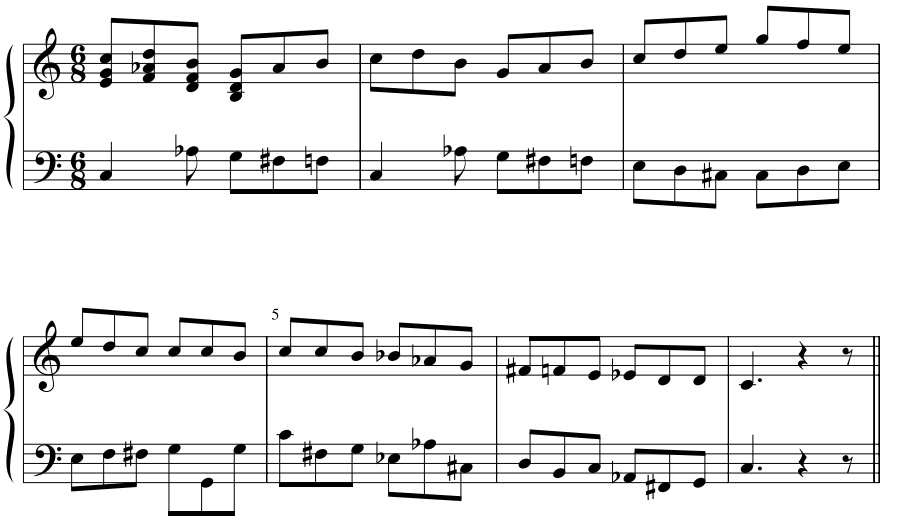
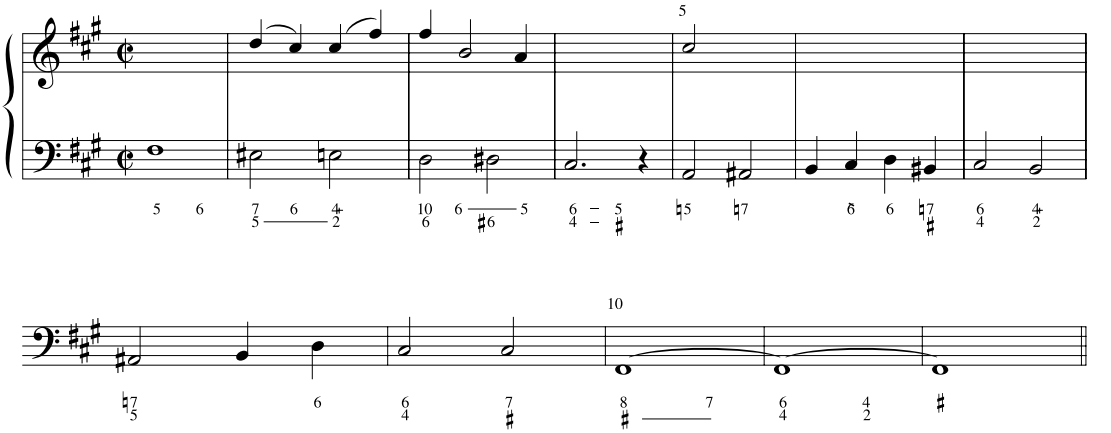
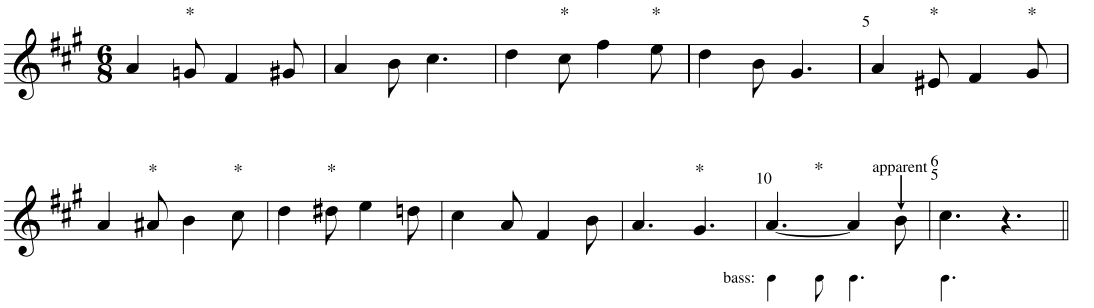
g. e — i, followed by a progression of interlocking applied $\frac{4}{2}$ and $\frac{6}{5}$ chords leading to a cadence.

h. b — Ascending 5-6 VI→i with $\frac{6}{5}$ chords.

3. Outer voices given (adapted from Chopin). Fill in the inner voices in keyboard style.

MINDTAP

Guided Exercises

This exercise's step-by-step audiovisual solution is available on MindTap.

4. Figured bass.

5. Melody. Harmonize each starred note with an applied chord. Occasional melodic 7ths may occur in the bass to preserve a reasonable register.

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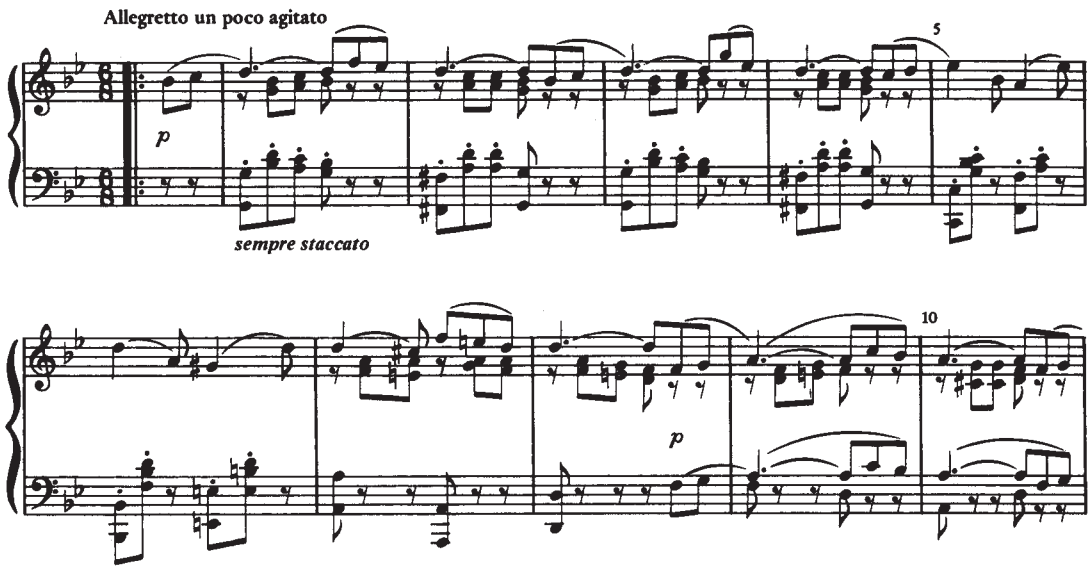
UNIT

27 Diatonic Modulation

27-1 *Mendelssohn, Lobgesang, I*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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Modulatory Techniques

1. ***New Goals of Modulation.*** Example 27-1 contains a modulation from G minor to D minor. Both the goal and the path leading to it differ from those discussed in Units 15 and 16. The goal—minor v—is a frequent one in pieces in minor; the path leads through a sequence in descending 5ths and includes a prominent applied chord (bar 6). In this unit, you will continue the work on modulation begun in Units 15 and 16.* You will learn the remaining diatonic goals—those other than V in major and III in minor. You will learn techniques for arriving at these goals. And you will learn how these new goals function within the tonal plans of large sections and of entire compositions.

2. ***Related and Remote Keys.*** The majority of modulations—especially those where the new key persists for a long time—are to closely related keys rather than to remote ones. Two keys are closely related if the tonic of the new key functions as a diatonic chord in the old one. Two keys are more or less remote from each other if they are not so related. There are degrees of remoteness. Thus, F♯ major is more remote from C major than is A♭ major, which functions as VI in C minor and can therefore relate indirectly to C major through mixture. This unit concerns itself only with modulation to closely related keys; other modulations will be reserved for later work in chromaticism.

   The keys closely related to C major are

   D minor (ii)

   E minor (iii)

   F major (IV)

   G major (V)

   A minor (vi)

   The keys closely related to C minor are

   E♭ major (III)

   F minor (iv)

   G minor (v)

   A♭ major (VI)

   B♭ major (VII)

   In each case, note that the family of closely related keys comprises all the major and minor triads that belong to the main key—the same triads, in fact, that can generate applied V's or VII's. Also note that the signatures of the related keys either are the same as that of the main key or differ by only a single accidental. One further observation: As a key area, the dominant in minor is, in principle, *minor* (Example 27-1) rather than major; a tonicized V in C minor is usually G minor (v) rather than G major. This is because the large-scale organization of pieces in minor tends to follow the natural form of the scale.

*Reviewing Units 15 and 16—especially 15, Sections 7–10—will make your work in this unit easier.

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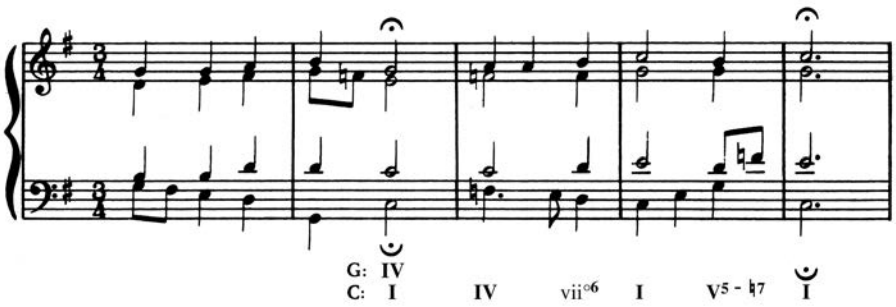
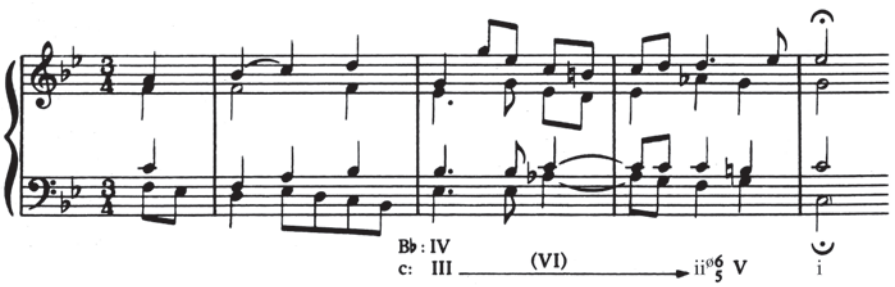
3. *Introducing and Confirming the New Key.* The principles that govern modulation to V, as explained in Unit 15, apply just as well to other modulations. To summarize them briefly: The new key is most often introduced by a pivot chord (sometimes by more than one); it is confirmed by a cadential progression, usually containing some form of ii or IV. The pivot can be any chord that belongs to both keys; the cadence can include the pivot chord, it can follow immediately the pivot, or it can appear after intervening material. Example 27-2 demonstrates modulations to IV, ii, and vi in major. Note that the techniques of modulation in no way differ from those you learned in Unit 15. Of course, some of the techniques we have discussed since Unit 15 enrich the possibilities for modulation. In particular, applied chords and sequential passages can help in introducing the new key. In Example 27-3, the pivot chord follows an applied °7—a good illustration of how applied chords can help to intensify a modulation.

27-2

(a) Bach, Chorale 222

(b) Bach, Chorale 209

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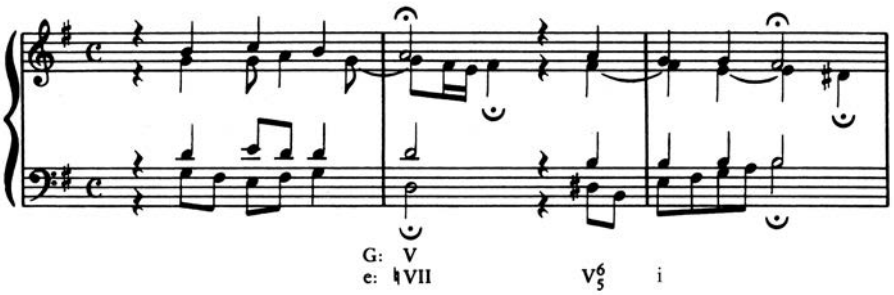
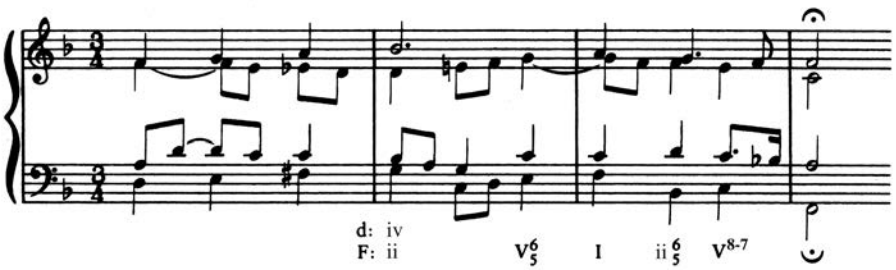
(c) Bach, Chorale 137



27-3 Bach, Chorale 207



As you learned in Unit 15, a change of key is not always brought about by a pivot chord. For example, a sequential passage will form a more or less extended transition between two key areas. In Example 27-1, Mendelssohn achieves the modulation by means of a sequence in descending 5ths—C-F-B♭-E♮—that leads from the main tonic, G, to A, V of D minor. (From bar 4½ to the D-minor tonic, the bass moves entirely by descending 5ths, but only bars 5 and 6 are sequential.) It would be pointless to search for a pivot chord in this quotation. The likeliest candidate—the seventh chord on B♭ (bar 6)—is in the middle of a sequence and hardly sounds like a pivotal event. The sequence as a whole forms the transition here. However, one element in the sequence—the augmented 4th in the bass of bar 6—helps to orient the listener toward D as tonic.

Sequences other than those based on descending 5ths can also prove useful in modulations. In this connection, review Example 18-1, where the second and third sequential passages (based on the ascending 5-6 type) lead from B♭ major to F. Sequences using applied V's and VII's, as discussed in the preceding unit, appear frequently as modulatory transitions.

4. ***Applications to Written Work.*** Students confronted with the possibility of modulating to six different keys are often bewildered by the seemingly endless array of approaches to the new key. It is helpful (and perhaps comforting) to realize that you have already learned most of the information you need to accomplish these modulations. You will have no need to memorize the available pivot chords for any particular modulation—a formidable and wholly unnecessary task. All you need to do is recall the way each diatonic triad functions within its key and then apply this knowledge to the new situation.

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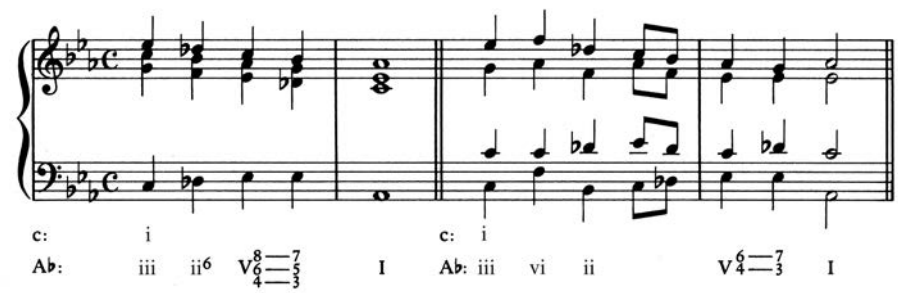
For instance, suppose you are writing an exercise in C minor and a modulation to A♭ major is called for. You can reinterpret the C-minor tonic chord as iii of A♭. But, of course, you will have to know what to do with the iii chord. Establishing a temporary key area requires a strong dominant in the new key, so your iii will have to move convincingly to a V. You could do this fairly quickly by means of a motion through IV or ii^6 to a cadential dominant. Or you could move a bit less directly through a progression of descending 5ths, perhaps expressed as a sequence. In either case, don't forget to insert the appropriate accidentals or your modulation will be shipwrecked. And, for a strong sense of arrival, you will want to approach the new tonic with a cadential soprano pattern that gravitates to its $\hat{1}$ (such as $\hat{3}$-$\hat{2}$-$\hat{1}$ or $\hat{1}$-$\hat{7}$-$\hat{1}$) and reaches it with a sense of rhythmic resolution; using a V^6_4 will intensify the new dominant and make your modulation sound convincing. Example 27-4 illustrates. (For a review of the basic diatonic progressions as applied to modulation, see the keyboard progressions for this unit in Appendix I.)

27-4 *modulating from c to A♭*

(a) *(b)*

5. *New Techniques of Tonicization.* As we know, compositions can incorporate not only large-scale departures from the tonic but also smaller-scale tonicizations. The least emphatic tonicizations are those produced by the play of melodic figuration alone, without the participation of chords. In textures where the changes of chord occur more slowly than the melodic rhythms, the melodic lines (especially the top voice) will often borrow tones from the key in which the supporting chord would be the tonic. The first example in this book (Example 1-1) can serve as an illustration; the C♯'s in bar 9 produce a D-minor scale and—very faintly—hint at D as tonic.

Stronger tonicizations arise out of a combination of melodic and chordal activity, as with the applied chords discussed in Unit 26. The principle of the applied chord can be extended to include brief progressions. In Example 27-5, both vi and iii (the goal of the phrase) are expanded by the progression iv-V^6-i. Any progression that expands a tonic can be used to tonicize other major or minor triads.

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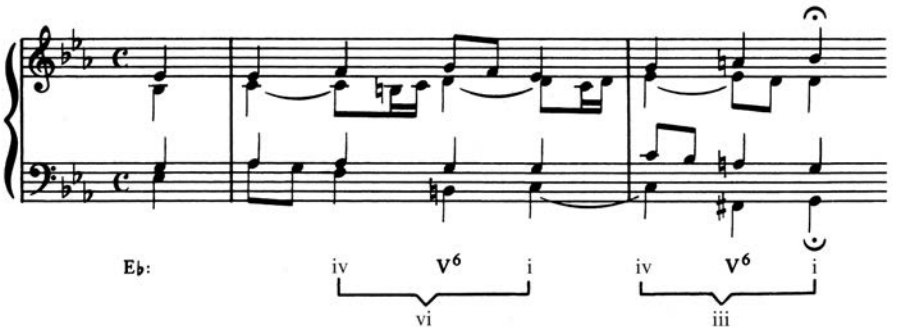
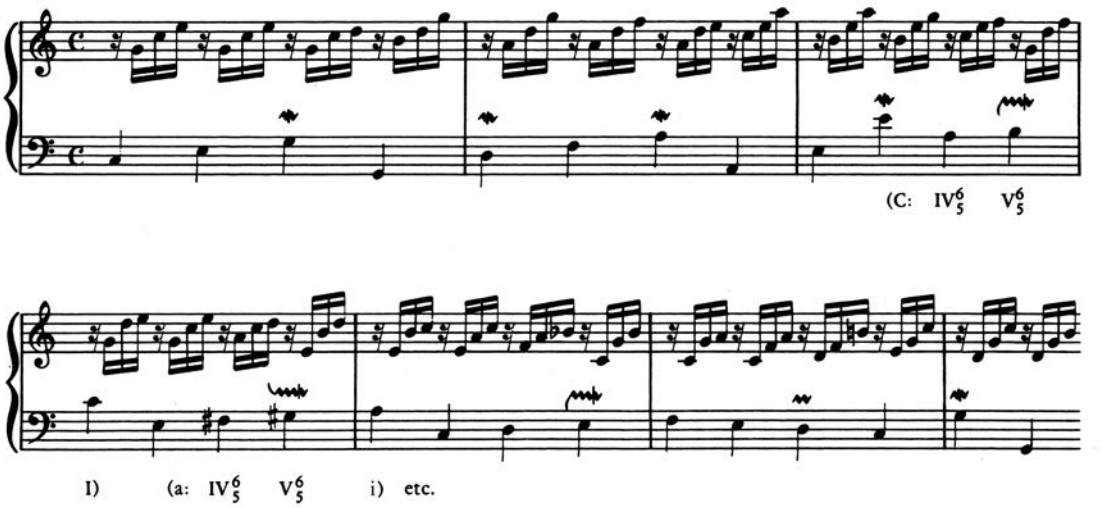
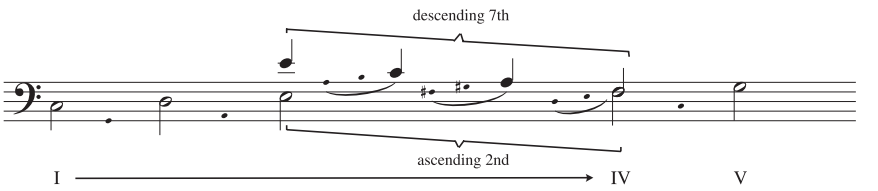
27-5 *Bach, Chorale 201*



Sometimes a series of tonicized chords forms a sequence. In Example 27-6, the familiar sequence by descending 3rds is expanded by chords that suggest IV^6_5-V^6_5-I in C major, A minor, and F major. The sequential passage leads from E to F, expressed as a descending 7th rather than as the simpler ascending 2nd. (Compare Example 18-1, bars 1–2.)

27-6

(a) Bach, Little Prelude, BWV 924

(b) reduction



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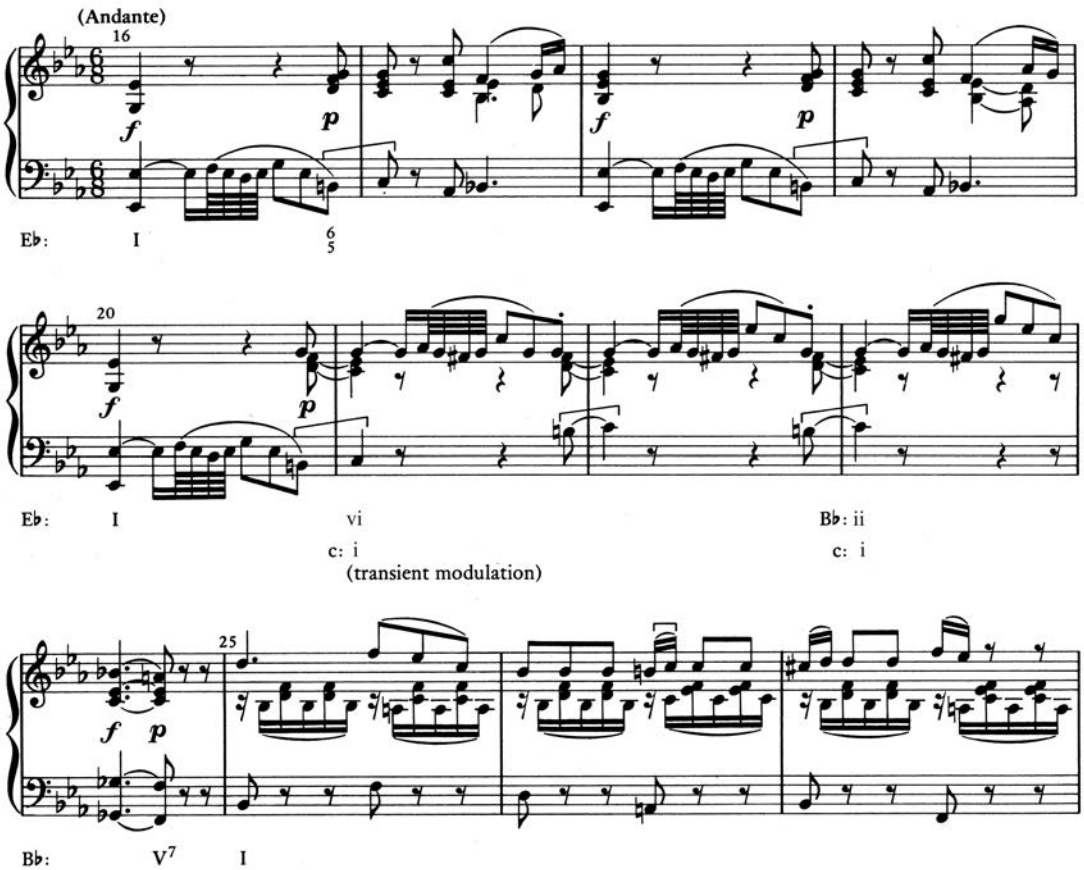
Note: The reduction shown in Example 27-6b uses in simplified form the technique of graphic music analysis developed by the great Austrian theorist Heinrich Schenker (1868–1935). In these graphs, note values mostly show structural importance rather than rhythmic relationships. In our reduction, for example, half notes depict the ascending line from I to V, which forms the harmonic/voice-leading framework of the bass. Quarters are used to show the sequence by descending 3rds, which expands one segment of that line. And stemless noteheads refer to bass tones whose chords function locally, without entering into large-scale connections.

6. *Transient Modulations.* Quite frequently what seems to be a newly established key area turns out to be the springboard for a more important goal. In Example 27-7, from the exposition of a Mozart trio, the main tonic, E♭ major, gives way to C minor that persists for some three bars. The C-minor "tonic," however, becomes a kind of pivot chord in a larger modulation from I to V. Such transient modulations that connect two more stable key areas are often called "passing modulations." In the Mozart, note how the twice-stated progression V^6_5–vi in bars 16–19 foreshadows the larger tonicization of C minor that follows immediately. (And, indeed, even the applied dominant is foreshadowed by the B♯ to C in the melody of the preceding phrase, as you can see by looking back to Example 14-14, which quotes this phrase.)

27-7 *Mozart, Trio for Clarinet, Viola, and Piano,* K. 498, I



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Modulation, Large-Scale Motion, and Form

7. *Tonal Plans.* In a unified composition, the succession of key areas is no more haphazard than is the succession of chords in a single well-composed phrase. The great composers had the marvelous ability to convey a sense of purposeful motion over large as well as small musical spans. The large-scale plan of a piece involves more than key areas, but within such a plan, modulation can play a most important role; it is this aspect of composition that we shall begin to investigate. The subject is exceedingly complicated and the possibilities are virtually endless, so we can present only some of the most important and typical ones. Even experienced musicians can encounter great difficulties in trying to understand the unifying principle of a complex piece. In this respect, as in others, the study of music is a lifetime's work—and more.

8. *i-III-V in Minor and Modulation to III.* By far, the most frequent modulation in minor is from i to tonicized III. A modulation to III often helps articulate the form of a piece in minor, much as a modulation to V might do in major. Thus, sonata-form movements in minor normally move to III for the second key area of the exposition; Baroque pieces in binary form often arrive at a tonicization of III before the central double bar. Of all modulations, the one to III in minor is the easiest to accomplish and the most natural sounding. This is partly because no accidentals are required, partly because of the inherent tendency of minor to gravitate to its mediant (Unit 16, Section 2).

Despite the importance of modulation to III in minor, the III itself is not a final goal. Instead, it usually forms the midpoint of a bass-arpeggio motion from i to V, often expanded by a passing iv between III and V. The III fulfills the same function, therefore, as in the smaller progressions discussed at the beginning of Unit 16; only the scope is expanded—sometimes considerably. The importance of I-V-I as the basic harmonic progression is reflected in the fact that even modulations to areas other than V—to III in minor, for example—normally function within a larger framework of tonic–dominant.

Example 27-8 shows the basic harmonic plan of the exposition and development of the first movement of Mozart's Piano Sonata in C minor, which moves from III through a passing iv to V. The goal V appears first as a *minor* chord (v). The minor dominant, of course, does not lead forcefully to i; before the recapitulation, therefore, the leading tone must appear. Mozart introduces it prominently in the bass, supporting V^6_5. One other feature deserves mention. The development section begins with a quotation of the opening idea—but, startlingly, in C major. Subsequent events clarify the meaning of this C major; it does not function as a tonic, but rather as V of iv (F minor). On a very large scale, tonicized iv fulfills its familiar function of leading from III to V.

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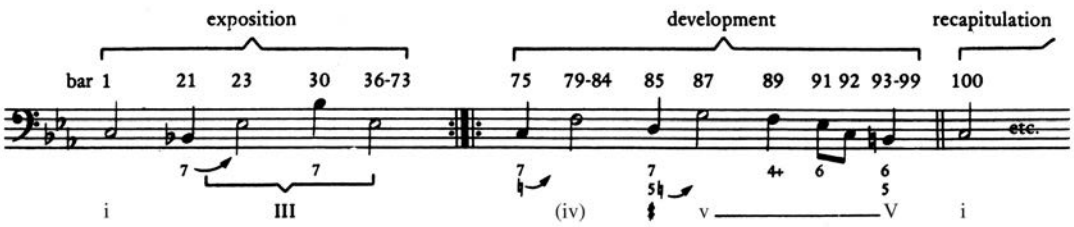
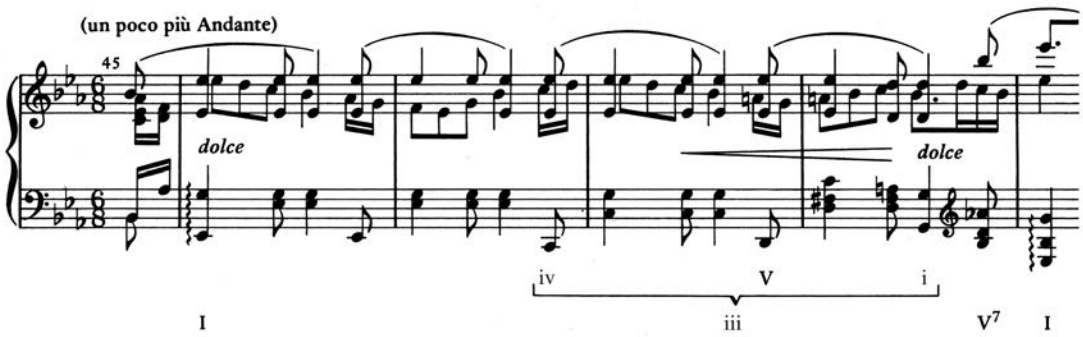
27-8 *Mozart, Piano Sonata in C minor, K. 457, I (sketch)*



From this point on, we shall be showing the large-scale harmonic plans of many of the pieces discussed by means of voice-leading reductions (as, for instance, in Example 27-8). You *must* consult the scores when you study these reductions if they are to be at all meaningful.

9. *Modulation to iii in Major.* Modulation to iii has much less importance in major than in minor; the major mode has no inherent tendency to move to iii, as has minor. Especially in the Classical period, diatonic iii occurs rather infrequently as an abiding key area in major-mode pieces. Both in the Baroque period and in the nineteenth century, however, tonicized iii does sometimes form part of large-scale harmonic progressions. Nineteenth-century composers would occasionally introduce into major the characteristic I–tonicized iii–V pattern of minor, as in Example 27-9.

27-9 *Brahms, Intermezzo, Op. 117/1*

10. *Modulation to v.* A frequent goal of modulation for pieces in minor is the natural minor dominant. In fugal expositions in minor, for example, where the alternation of subject and answer creates movement between tonic and dominant, tonicizations of the minor dominant naturally occur. If the fugue has a long subject, the tonicization may be substantial and may even create the impression of a brief modulation, as in Example 27-10. Note how Bach introduces the leading tone (bar 12) to prepare for the next entrance in the tonic—exactly the same principle as in Example 27-8.

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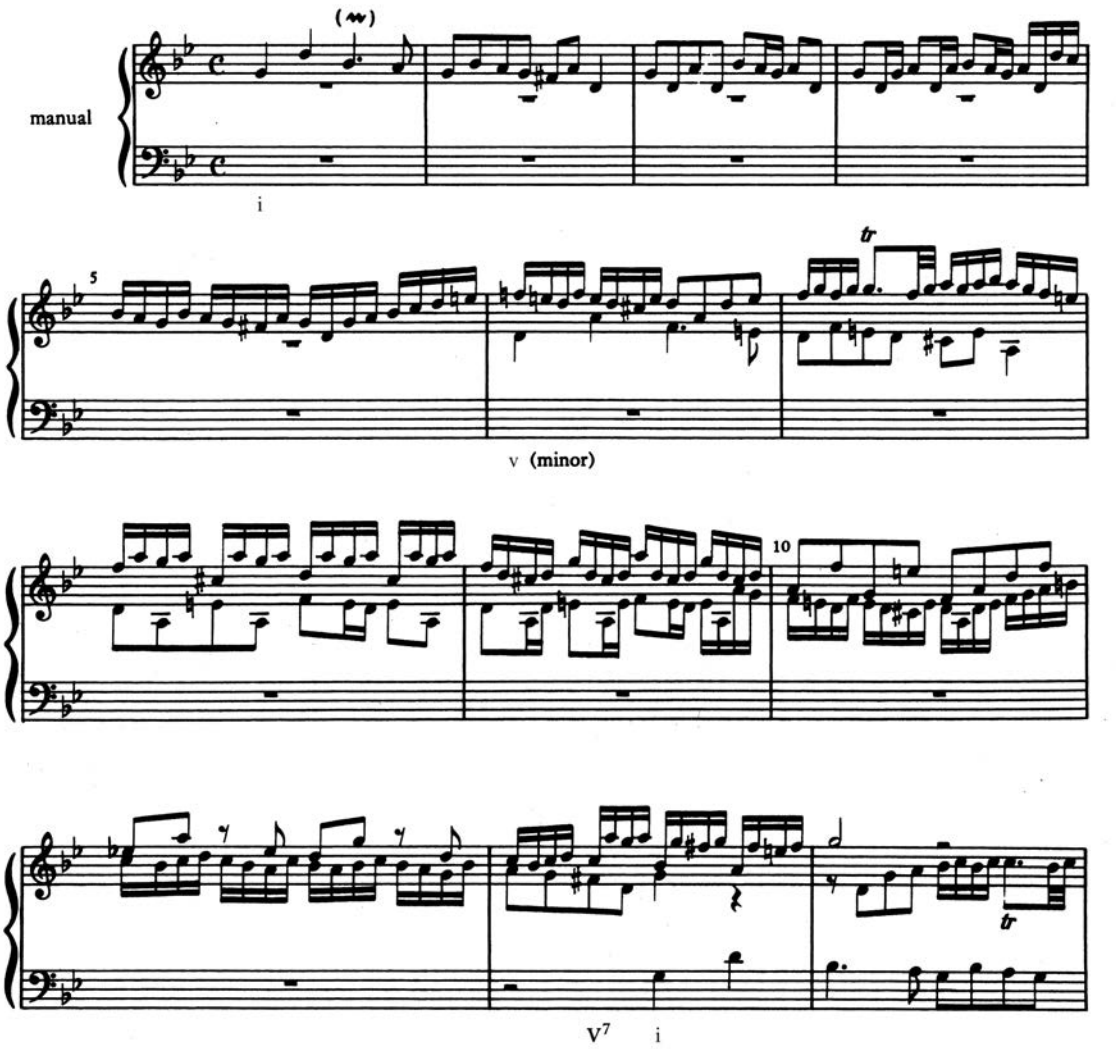
27-10 *Bach, Organ Fugue in G minor, BWV 578*

Modulations to the minor dominant can also occur at the midpoint of binary movements and—much less often—in sonata expositions (Beethoven, Op. 90, first movement).

11. *Modulation to IV.* If it occurs early in the piece, a modulation to IV in major can be disorienting. This is because the tonic in major is also V of IV (Unit 26, Section 9); too much emphasis on IV as a "key" can upset our sense of tonality, making us hear IV as I and I as V. Composers have generally avoided modulating to IV early on, though brief tonicizations frequently occur even at the very beginning.

Modulation to IV in major creates no problems of tonal balance if it occurs later in the piece, as in the middle section of a three-part form. The tonicized IV usually moves on to V of the home key to prepare the return of I. This procedure is sketched in Example 27-11. A similar use of tonicized IV often

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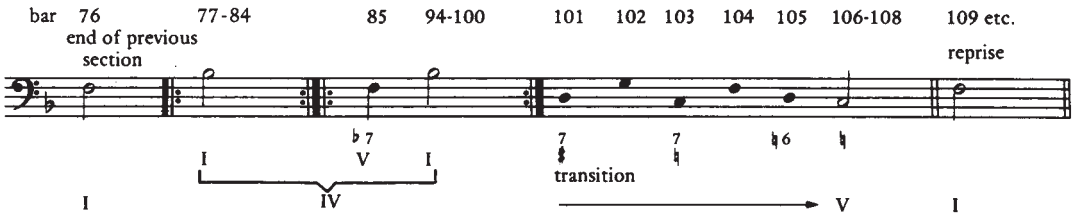
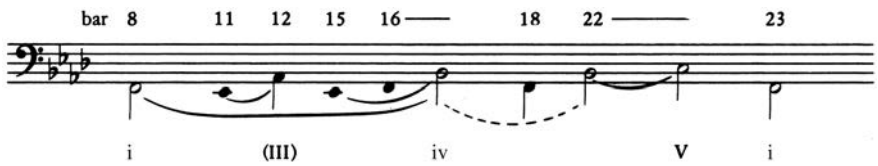
characterizes the C section of rondo forms. When tonicized IV occurs in ABA and rondo forms, it frequently—and typically—enters right at the beginning of the new section without a transition (phrase modulation, see unit 15, section 11).

27-11 *Mozart, Violin Sonata, K. 377, III*



Early modulations to iv are not as problematic in minor as in major, for the minor tonic cannot sound like V of iv unless its 3rd is raised. Nevertheless, such early modulations are quite rare. The main theme of Chopin's Ballade in F minor contains a modulation to a considerably emphasized and extended iv. Example 27-12 sketches the tonal plan, in which a briefly tonicized III (A♭ major) leads from the opening F minor to its subdominant, B♭ minor. Note the difference between this tonal plan and the one shown in Example 27-8. In the earlier excerpt, the iv forms a transition between III and V. In the Ballade, on the other hand, iv functions as a goal; this time the III forms a transition—between I and iv. Eventually, of course, the iv itself moves on to V and i.

27-12 *Chopin, Ballade, Op. 52*



Tonicized iii can lead to a goal IV in major as well as in minor.

12. *Modulation to vi.* Modulation to vi occurs frequently in both major and minor (vi and VI). In major, vi is the easiest *minor* triad to tonicize. This is because the two scales have seven common tones; only one accidental is needed to effect the modulation—the leading tone of vi (G♯ in a modulation from C major to A minor). In minor, VI is also quite easy to tonicize because its dominant occurs naturally (without chromatic alteration) on the third scale degree.

A most important function of tonicized vi is to lead down in 3rds from I to IV (in both modes). The progression that results represents the expansion of the descending bass arpeggio discussed at the beginning of Unit 12. Example 27-13 shows the small-scale application of this technique.

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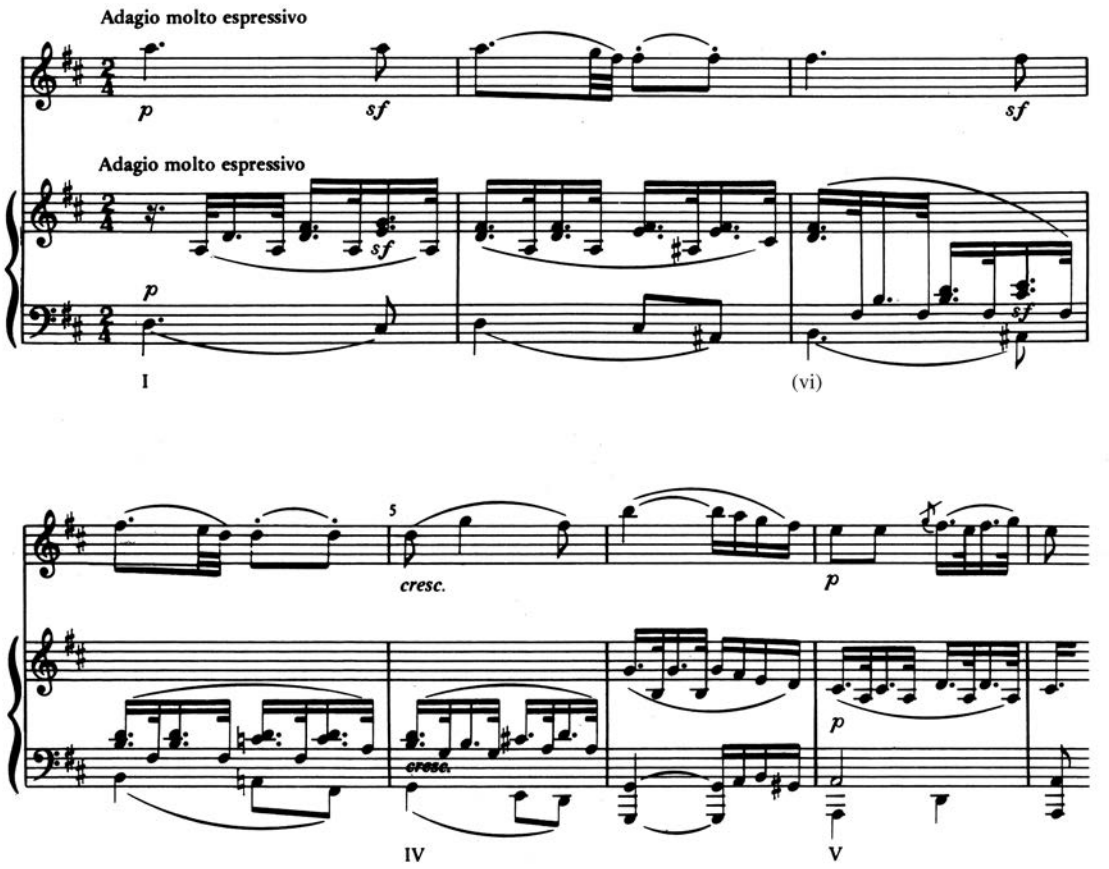
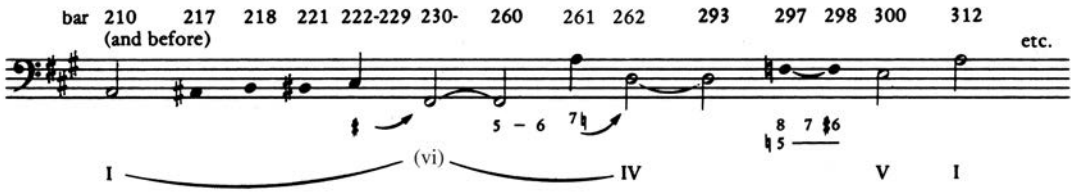
27-13 *Beethoven, Violin Sonata, Op. 30/1, II*



The same plan frequently occurs over much larger musical spans. Mozart sometimes uses it in the C sections of his rondo movements. Example 27-14 shows a reduction from a substantial part of the last movement of his Piano Concerto, K. 488. (The expanded and tonicized IV moves to V through an "augmented 6th chord"—a type of chromatic chord to be discussed in Unit 30.)

27-14 *Mozart, Piano Concerto, K. 488, III (sketch)*



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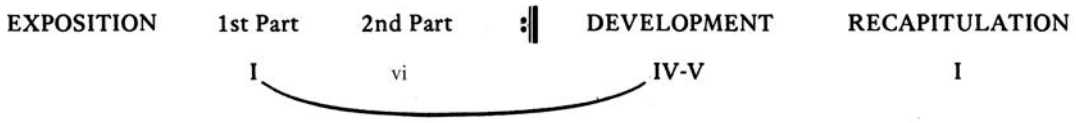
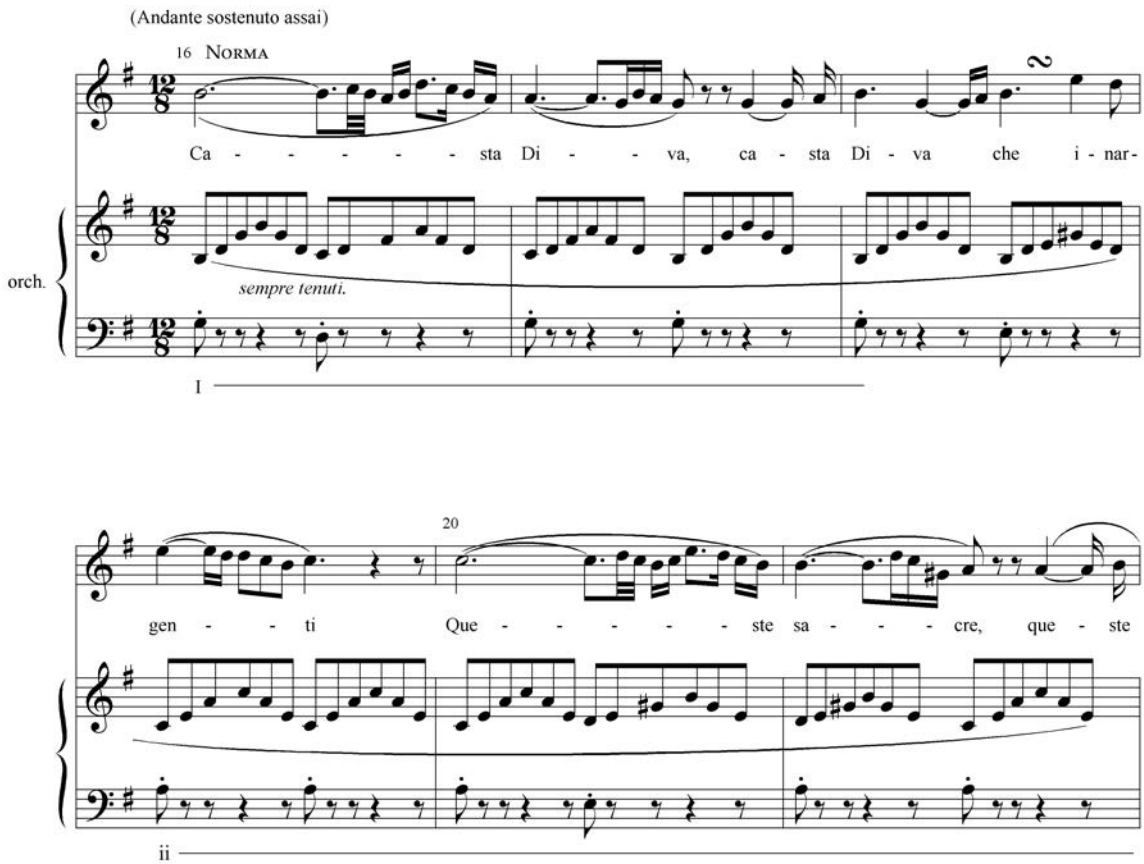
Beethoven—especially in his later works—sometimes used a similar plan for movements in sonata form, thus:



For illustrations, see the first movements of the Piano Sonata, Op. 111, and the Ninth Symphony.

13. *Modulation to ii in Major.* The supertonic occurs infrequently as an enduring key area, partly because of its strong tendency to move to V. However, tonicizations lasting a few measures are quite common, especially at the beginning of a piece, where repeating the opening idea one step higher can be most effective. As one would expect, the tonicized ii will normally move on to V. Example 27-15 illustrates.

27-15 *Bellini, "Casta diva"* *(from Norma)*

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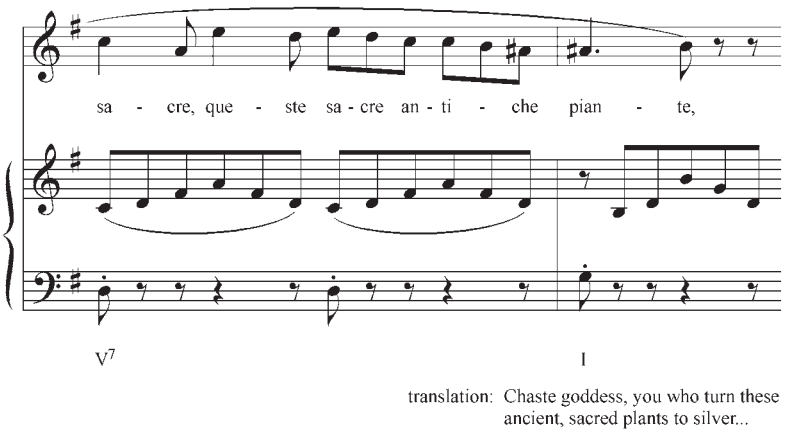
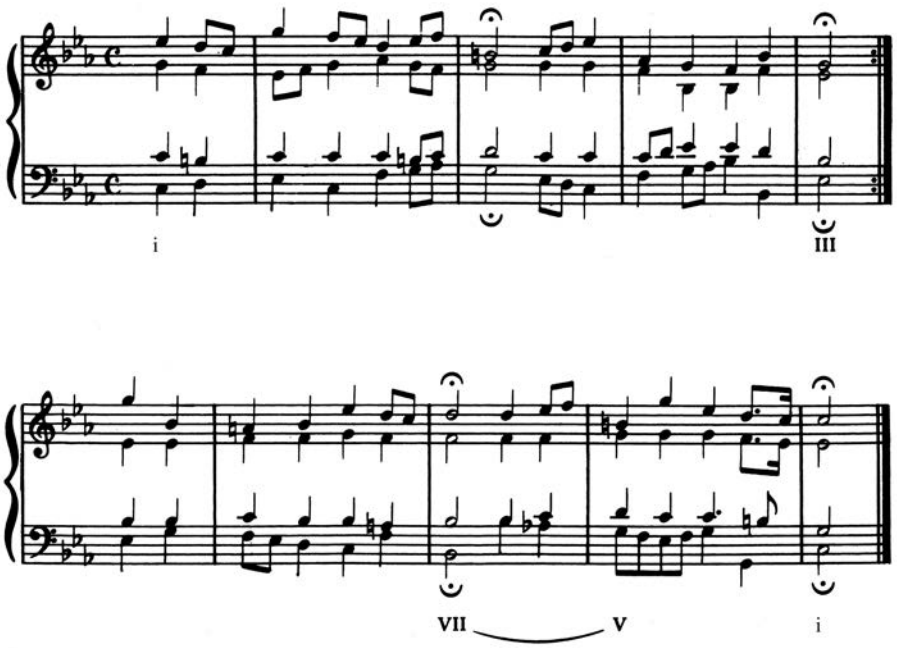


translation: Chaste goddess, you who turn these ancient, sacred plants to silver...

14. *Modulation to VII in Minor.* Brief tonicizations of VII in minor occur fairly often, especially in Baroque music. Usually the VII leads to V, as in Example 27-16, where it serves as the connecting link in a III-V progression.

27-16 *Bach, Chorale 149*

Large-scale tonicizations of VII—as in the Scherzo from Beethoven's Ninth Symphony—are unusual occurrences.

15. *Modulation within a Prolonged Dominant.* Compositions in which the main modulation is to V often extend the V through one or more subordinate modulations before returning to I. Such sections often gravitate to a tonicized vi as upper neighbor to V. When the V comes back, it is often preceded by

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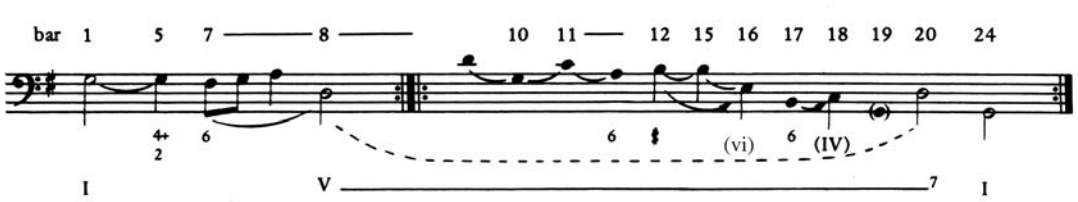
a ii or IV and often supports a 7th in order to lead convincingly to I. Example 27-17 shows a sketch of the tonal plan of the Gavotte from Bach's French Suite No. 5. The piece is in binary form; the tonicized V arrives before the first double bar. The V is extended by a tonicization of vi (upper neighbor) and a briefer one of IV (lower neighbor). Notice how the double neighbor D-E-C-D—an idiom from third-species counterpoint—is the basis for the expansion of V underlying much of the second section of the form. Development sections of movements in sonata form often show similar tonal plans, but usually on a much larger scale.

27-17 *Bach, French Suite No. 5, Gavotte (sketch)*



16. *Large-Scale Expansions of Contrapuntal Chords.* All the tonal plans we have discussed so far may be thought of as expansions of basic progressions leading to V and eventually to I. Although these form what is undoubtedly the most important category of modulation in tonal music, other possibilities exist, especially in sectionalized compositions. For example, in *da capo* arias of the Baroque period and in nineteenth-century ABA forms, the middle section might expand IV, vi, or iii; the composition might then return to the tonic at the reprise of the A section without an intervening dominant, thus expanding the contrapuntal progressions discussed in Units 14 and 17.*

POINTS FOR REVIEW

1. Most modulations are to related keys—those whose tonics occur as diatonic triads in the main key and whose key signatures are the same as or differ by only one accidental from that of the main key.
2. Modulations to related keys are usually introduced by a pivot chord and confirmed by a cadence that includes some form of ii or IV as well as V. Using a V^6_4 in the cadence will help to confirm the new key.
3. Instead of a pivot chord, a sequence can lead to the new key.
4. A transient, or passing, modulation can connect two more stable key areas.
5. Tonicizations can be produced by
   a. figurated melody.
   b. chord progressions—most often including an applied dominant.
6. Tonicized chords can occur within sequences, frequently those descending by 3rds.
7. In i–tonicized III–V–i in minor, a passing iv (often tonicized) usually connects III-V. This is the most frequent tonal plan in minor. Occasionally, the same plan occurs in major.
8. Another frequent possibility in minor: i-v-V♯-i.

*A simple example, too long to quote, is Chopin's Mazurka, Op. 17, No. 1, which expands I-IV-I, the most important of these possibilities.

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9. A possibility both in major and minor is I–tonicized IV–V–I. Beware of modulating to IV *early* in the piece, especially in major.
10. Tonicized vi leading down in 3rds from I to IV is frequent in both major and minor (VI).
11. I–tonicized ii–V–I (possible in major only) is a frequent progression in opening themes; ii is usually of brief duration.
12. Tonicized vi often functions as upper neighbor to V within a large-scale expansion of dominant harmony.

EXERCISES

1. Preliminaries. Write the following progressions. Each should consist of about 8–12 chords and should be in a definite meter. For illustration, see Appendix I, Example *l* in the progressions for this unit.
   a. Establish F♯ minor; modulate to A major, using iv of F♯ minor as a pivot.
   b. Establish A♭ major; modulate to C minor, using V of A♭ major as a pivot.
   c. Establish F minor; modulate to B♭ minor, using VI of F minor as a pivot.
   d. Establish E major; modulate to A major, using ii of E major as a pivot.
   e. Establish D minor; modulate to A minor, using III of D minor as a pivot.
   f. Establish D♭ major; modulate to B♭ minor, using V of D♭ major as a pivot.
   g. Establish B minor; modulate to G major, using iv of B minor as a pivot.
   h. Establish E♭ minor; modulate to D♭ major, using i of E♭ minor as a pivot.
   i. Establish D minor; follow with descending fifths leading to a tonicized B♭ major.
   j. Establish A major; continue with a sequence in descending 3rds leading to VI of F♯ minor; cadence in F♯ minor.
2. Select three progressions from Exercise 1; expand them into more extended phrases that return to the original tonic. For illustration, see Appendix I, Example *m*, in the progressions for this unit.
3. Figured bass. Set for strings. Vocal ranges need not be strictly observed. Don't change chords over the repeated bass notes. Where the figure 7 occurs, you will have to decide whether it stands for a seventh chord or a suspended 7th resolving into a $\frac{6}{3}$. In this exercise, the figure $\frac{6}{5}$ usually stands for $\frac{6\text{-}6}{6\text{-}5}$.

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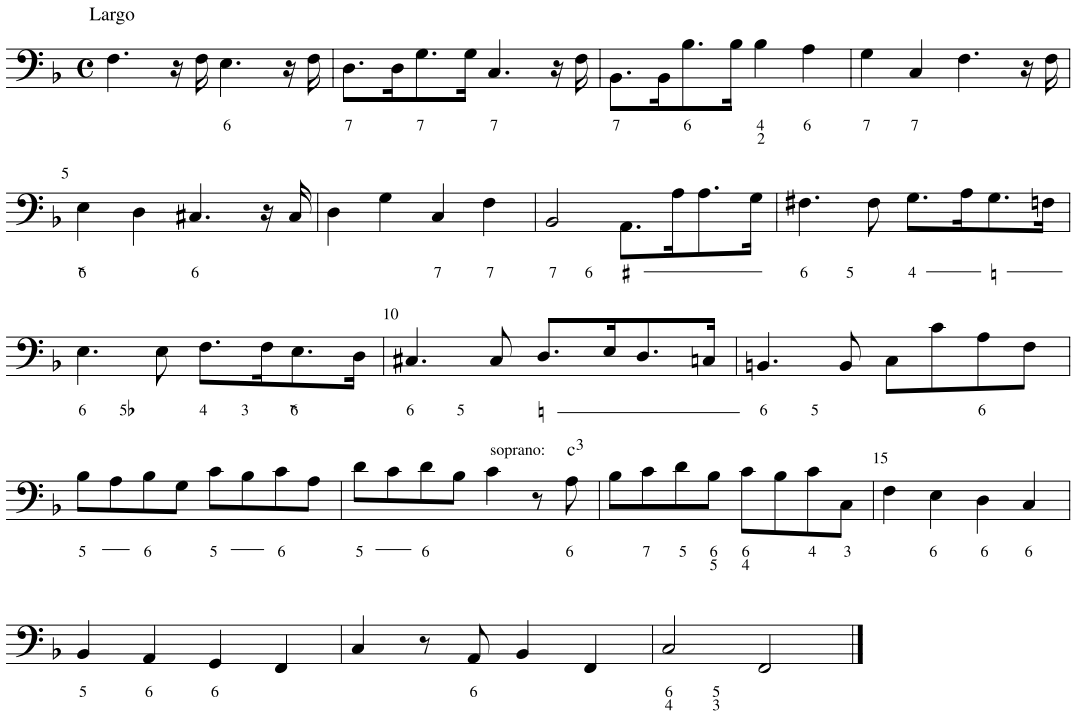
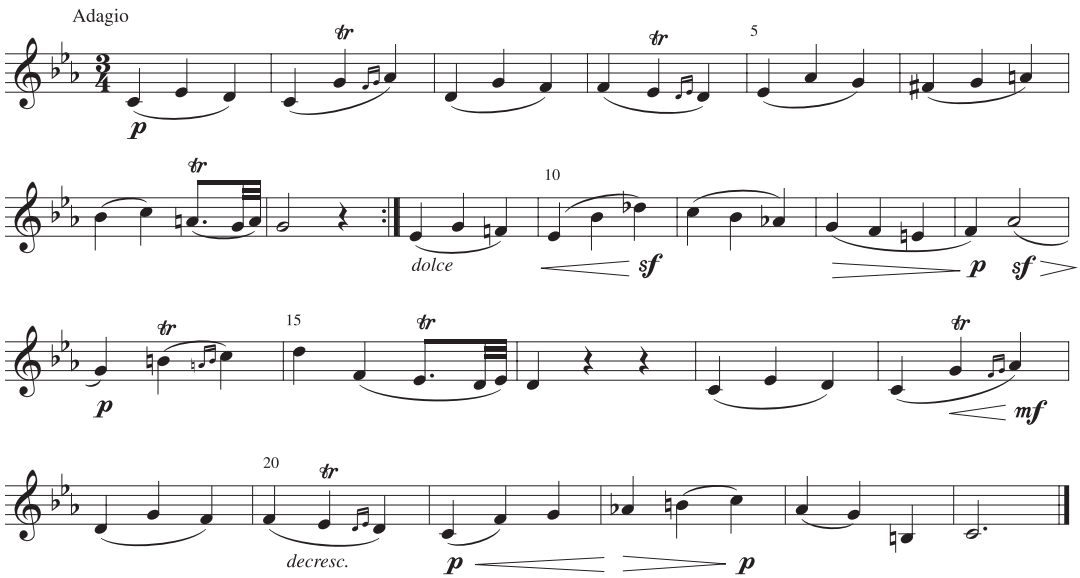
Corelli

4. Set for four voices. The next-to-last bar may contain a cadential $\frac{6}{4}$ followed by a transferred resolution.

Haydn

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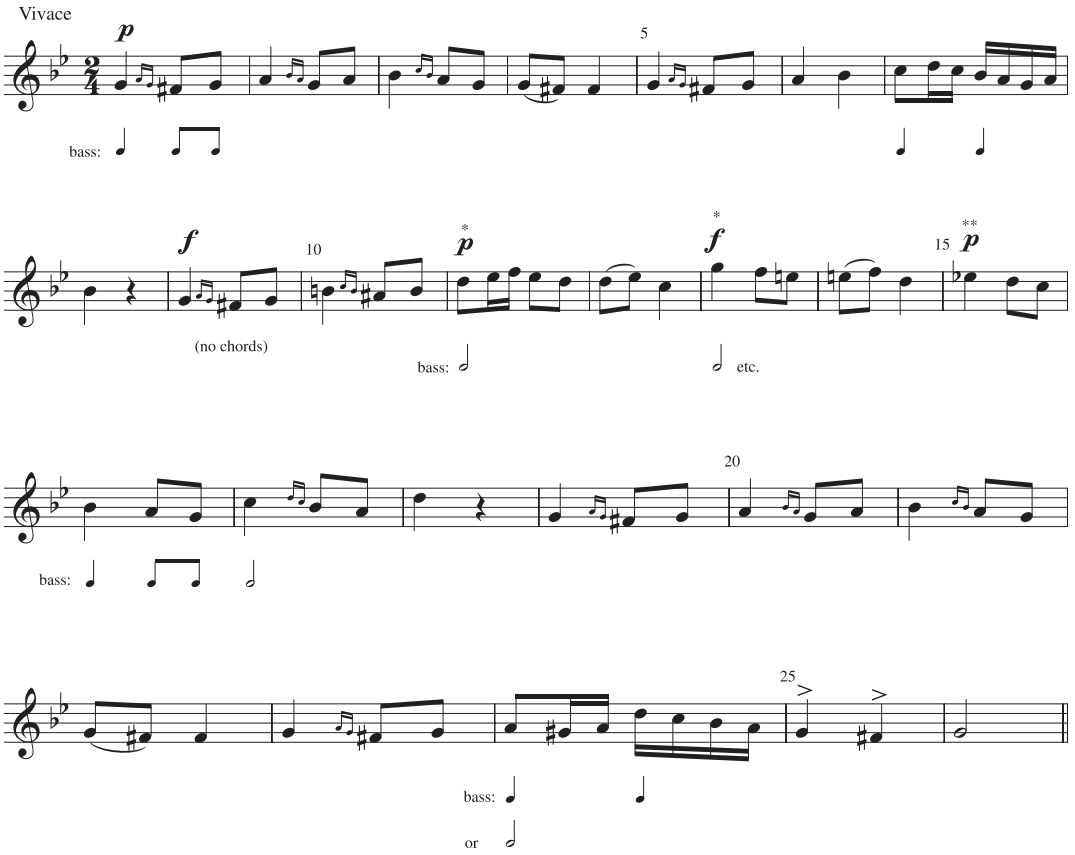
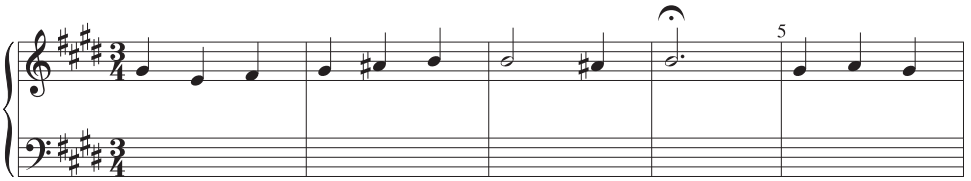
5. Melody. Set for strings. Analyze carefully for figuration. Bars 9 and 10 should be set in unison.

6. Determine the key of each phrase by analyzing the cadence at the fermata (don't forget the possibility of using a deceptive or half cadence). Then identify common soprano patterns and harmonize them with corresponding harmonic progressions.

* = applied chord. ** = LT 7th.

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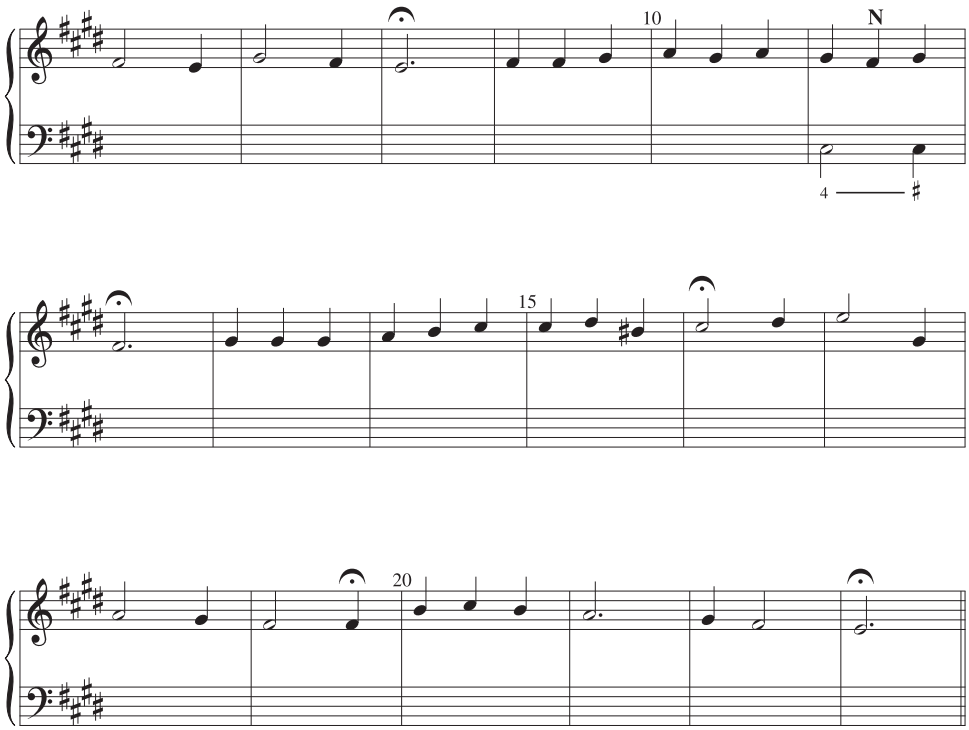
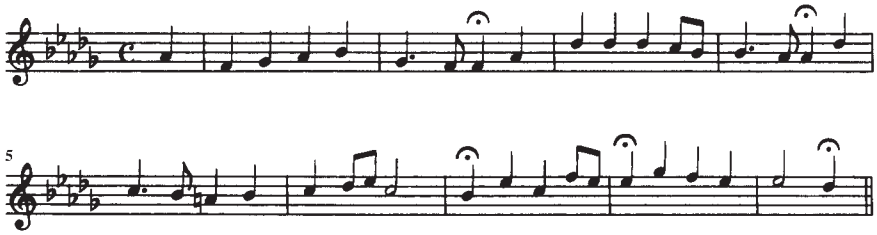
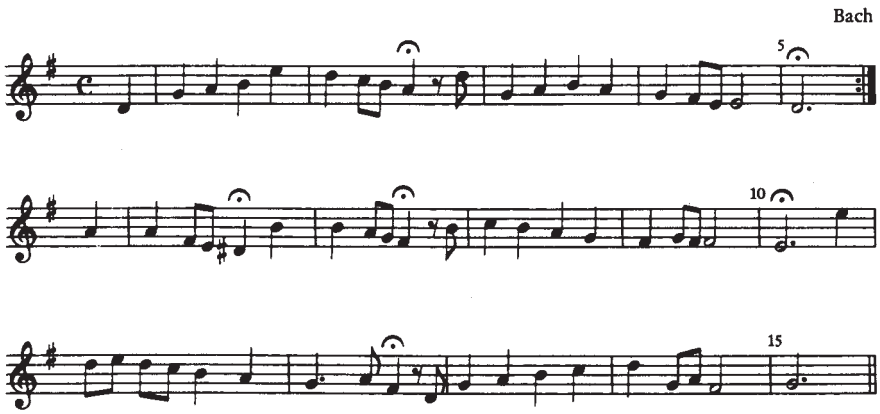

7. Chorale melody. Set for four voices.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

8. Melody. Set in four-part chorale style.

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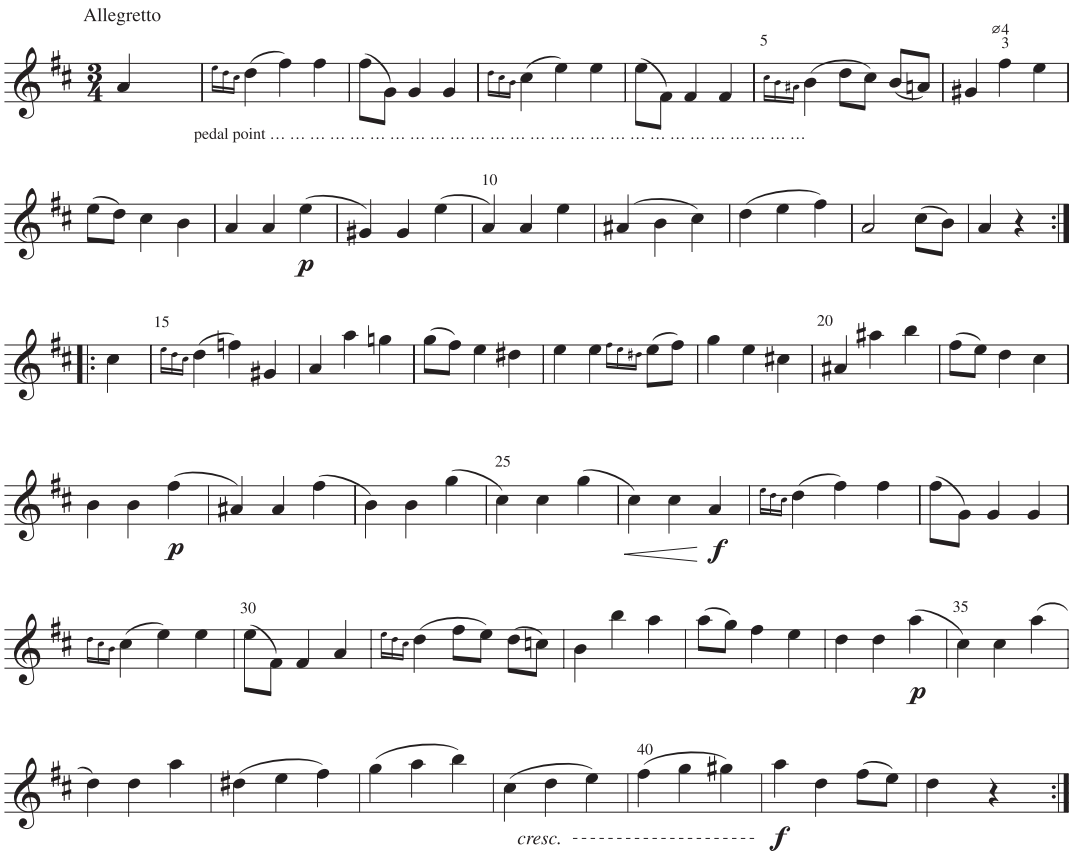
9. Menuetto. Set for piano or strings with free texture.

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PART VI

Dissonance and Chromaticism II

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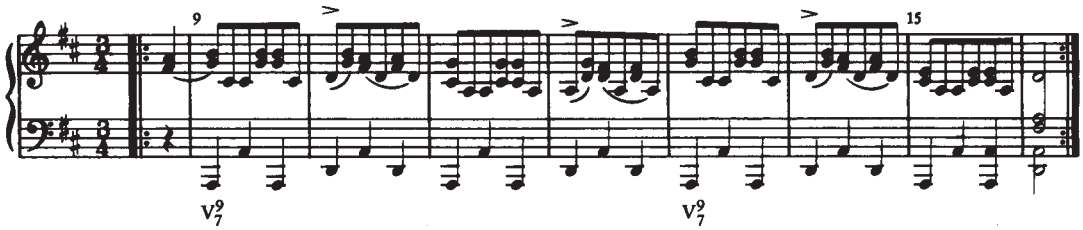
UNIT

28 Seventh Chords with Added Dissonance

28-1 *Schubert, Ländler, Op. 67/5*

Ninths

1. ***The Dominant Ninth Chord.*** In bars 9 and 13 of the Schubert dance quoted in Example 28-1, we find a sonority composed of V^7 plus a 9th above the bass. As often happens, the V^7 is incomplete—it lacks a 5th. Usually V^7 is deprived of its 5th to make room for the octave doubling of the root. Here, however, the incomplete V^7 is accompanied not by $\hat{5}$—forming an octave—but by $\hat{6}$—forming a 9th. The 9ths last for the full duration of dominant harmony and resolve, by stepwise descent, into $\hat{5}$ as the 5th of I.

   Adding $\hat{6}$ to V^7 produces the *dominant ninth chord*. Since the 7th is always present, the symbol V^9_7 is more accurate than the usual V^9—a label that can also refer to a suspension into the dominant triad. As Example 28-2 shows, the complete ninth chord contains five tones. In four-part writing, the 5th is

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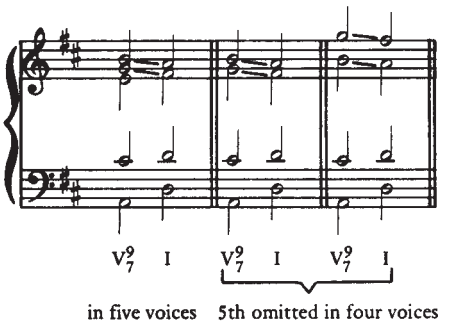
omitted—also, often, in free instrumental textures, as in the Schubert dance. The 9th and 7th resolve by parallel motion into the 5th and 3rd of tonic harmony. The 9th appears mostly in the soprano, so the parallel motion will usually be in 3rds or 10ths; if the 9th appears in an inner voice, parallel 6ths become possible.

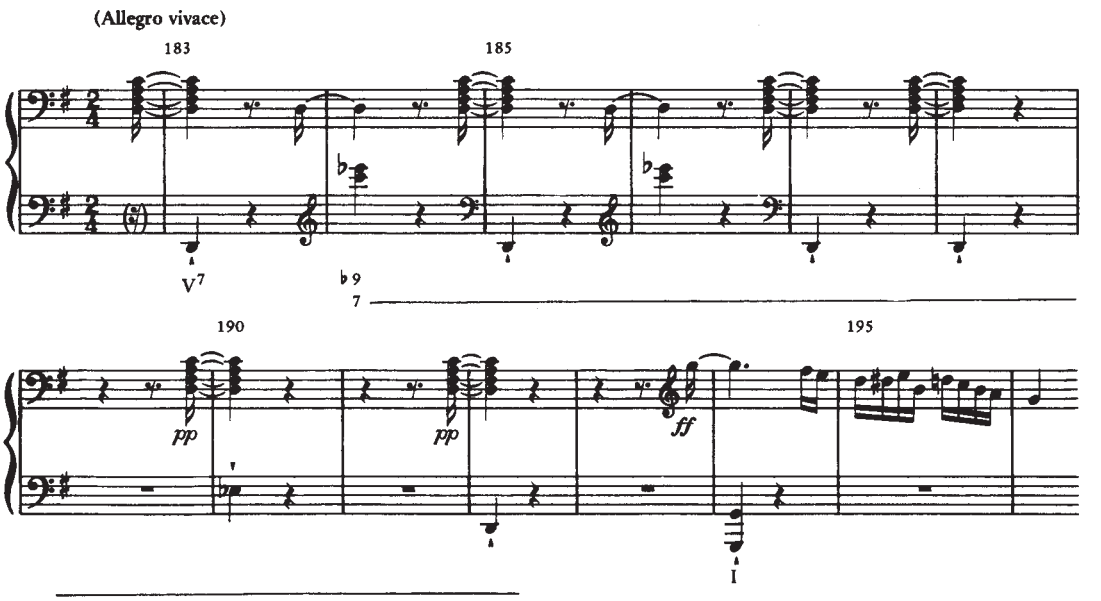
28-2 *dominant 9th*

(a) *(b)* *(c)*



In major, the 9th between $\hat{5}$ and $\hat{6}$ is major; in minor, it is minor. As we know, $\flat\hat{6}$ frequently appears in major through mixture; $V^{9\flat}_{7}$, consequently, occurs readily in major (Example 28-3).

28-3 *Beethoven, Piano Sonata, Op. 31/1, I*



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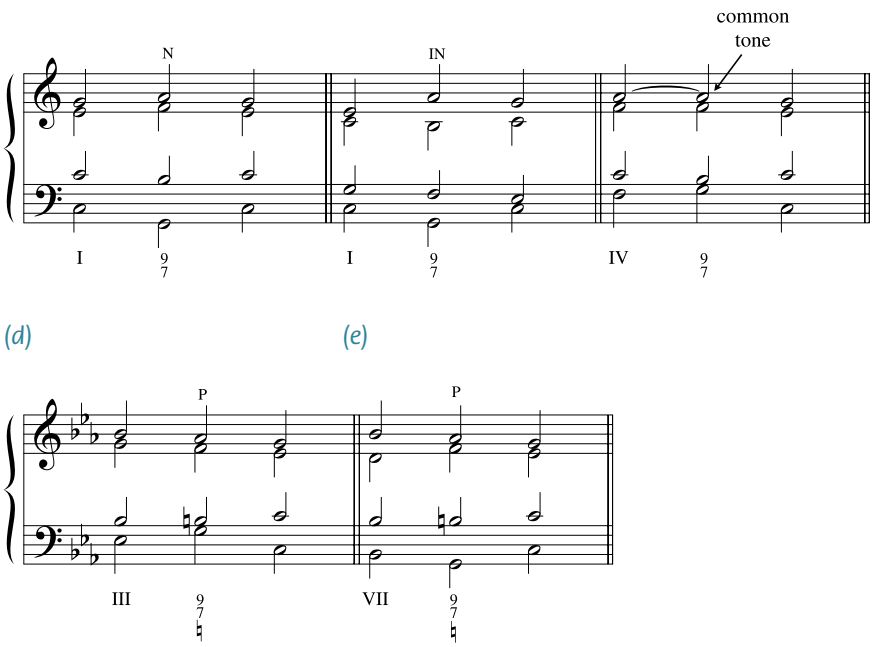
2. *Melodic Functions of the 9th.* The 9th above the dominant—like the 7th—functions as an element of melodic figuration. Most often, as in the Schubert, the 9th is a neighbor. As we know, the most characteristic function of $\hat{6}$ is to form an upper neighbor to $\hat{5}$; using V^9_7 gives us a new way to harmonize $\hat{5}$-$\hat{6}$-$\hat{5}$. $\hat{6}$ can also come in unprepared as an incomplete neighbor. If it follows a chord that contains $\hat{6}$ (mainly IV or ii), the 9th can appear as a common tone (suspension if accented). If V^9_7 follows III or VII in minor, the 9th can function as a descending passing tone; this usage is comparatively rare. Example 28-4 illustrates.

28-4 *melodic functions of the 9th*



Compared with seventh chords, ninths play a decidedly secondary role in composition. The reason lies in the different ways the resolution of the dissonance relates to chord progression. Adding a 7th to a triad produces a dissonance *that cannot resolve within the chord.* Thus, F in the seventh chord G-B-D-F resolves to E, a tone foreign to the G chord. Using the 7th, therefore, promotes progression to a new chord—one that contains the tone of resolution. Because the dissonance so powerfully influences harmonic direction, it is useful—indeed, necessary—to think of seventh chords as a special category, bearing in mind that they are really triads plus a dissonant passing tone or suspension.

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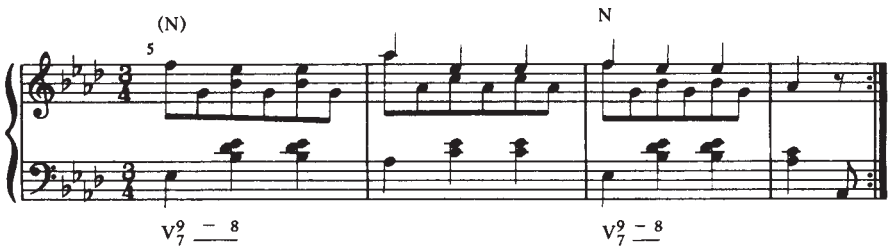
With ninths, the situation is completely different. If we add a 9th to a seventh chord, we produce a dissonance that can easily resolve within the chord—that resolves, in fact, to a tone already present in the bass. Thus, A in the ninth chord G-B-D-F-A resolves to G, a chord tone already present in a lower voice and register. And frequently, a 9th above V resolves to an octave within dominant harmony. Example 28-5 illustrates this possibility; in such cases, it is best to think of the 9th as an ordinary neighbor or suspension.

28-5 *Schubert, Trauer-Waltzer, Op. 9/2*



Because the 9th can—and frequently does—resolve without a change of chord, it cannot intensify chord progression in the way the 7th does. What it *can* do is intensify the dissonant character of the dominant—the harmony that more than any other tends to attract dissonant formations. And the added dissonance helps to create a rich sonority, a feature that was attractive to many composers—especially those of the nineteenth century. For the most part, you can get along very well without thinking of "ninth chords" as a separate category; think of them simply as seventh chords that support an emphasized tone of figuration. However, dominant ninths *in root position* often reveal seeming irregularities in dissonance treatment; the label V^9_7 makes it easier to discuss such cases. Nondominant ninths occur infrequently except in sequences; inverted ninth chords are also infrequent, for reasons that we shall discuss in Section 7. You do not need to learn them as individual chords.

3. *Unresolved 9ths.* Undoubtedly, the most unusual feature of V^9_7 is that the dissonance, seemingly, is often left unresolved. In principle, as we have learned, the 9th of V^9_7 resolves by stepwise descent. However, if the 9th accompanies a 7th that *does* resolve, composers will frequently omit the resolution of the 9th. The converse, by the way, is not true; unresolved 7ths occur most infrequently, whether or not they accompany 9ths. Example 28-6 contains two unresolved 9ths, both from works of Beethoven. In the first excerpt, the 9th appears in the course of a florid melodic line as a kind of embellishing tone above the 7th. (The 7th does not resolve in the melodic line, but it is transferred into the accompaniment, where it resolves.) In the second excerpt, the 9th is followed by a passing octave (*not* a resolution) that leads down to the 7th, which resolves in the soprano line.

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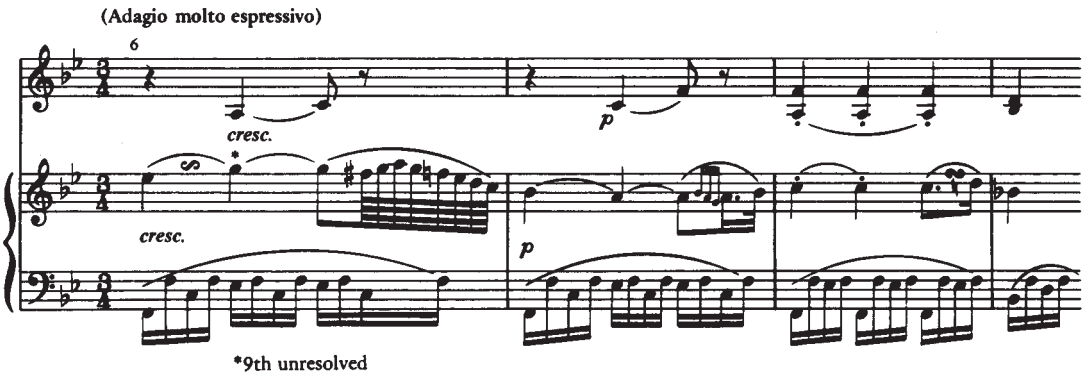
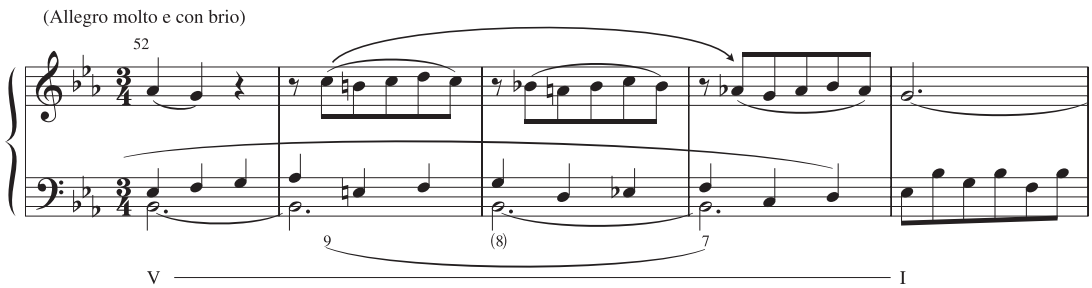
28-6

(a) Beethoven, Violin Sonata, Op. 24, II



(b) Beethoven, Piano Sonata, Op. 10/1, I

However they may look on paper, such 9ths do not *sound* unresolved—hence, the unusual freedom in dissonance treatment. Because $\hat{5}$, the tone of resolution, is present as a common tone in both V (the chord that contains the dissonance) and I (the following chord), the listener does not require a literal resolution as strongly as with the 7th; in this case we can speak of an *implied* resolution. If an unresolved 9th receives a great deal of emphasis, a composer might incorporate a stepwise descent from the same pitch into a later part of the piece. This happens, in fact, in the Beethoven Violin Sonata of Example 28-6a where the G returns in bar 18 (not shown in the example) and initiates a stepwise descending line, perhaps as a compensation for its having been left in the air earlier in the piece.

4. ***Unprepared 9ths.*** Unprepared dominant 9ths, as in the two excerpts of Example 28-6, appear rather frequently, especially if the 9th enters in the soprano *after* dominant harmony has begun to sound.

5. ***9ths in Applied Dominant Chords.*** 9ths occur as freely in applied dominant chords as in the true dominant of the key. In Example 28-7, $\frac{9}{7}$'s are applied to IV and V. Note that the 9ths are transferred into an inner voice, where they resolve.

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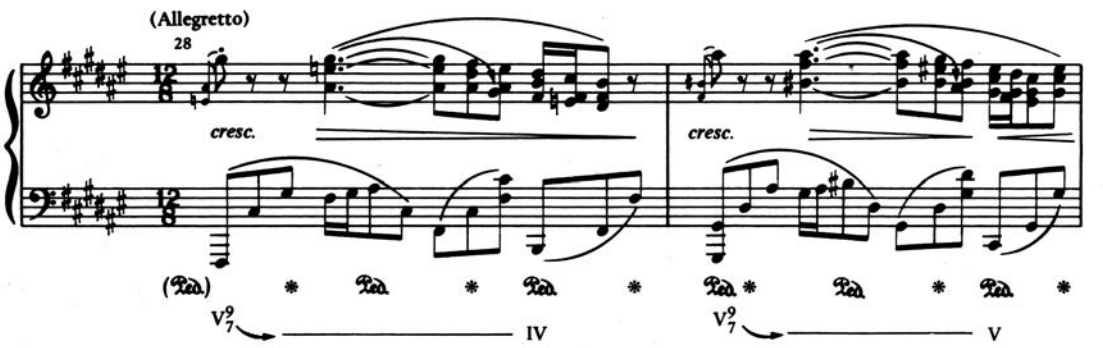
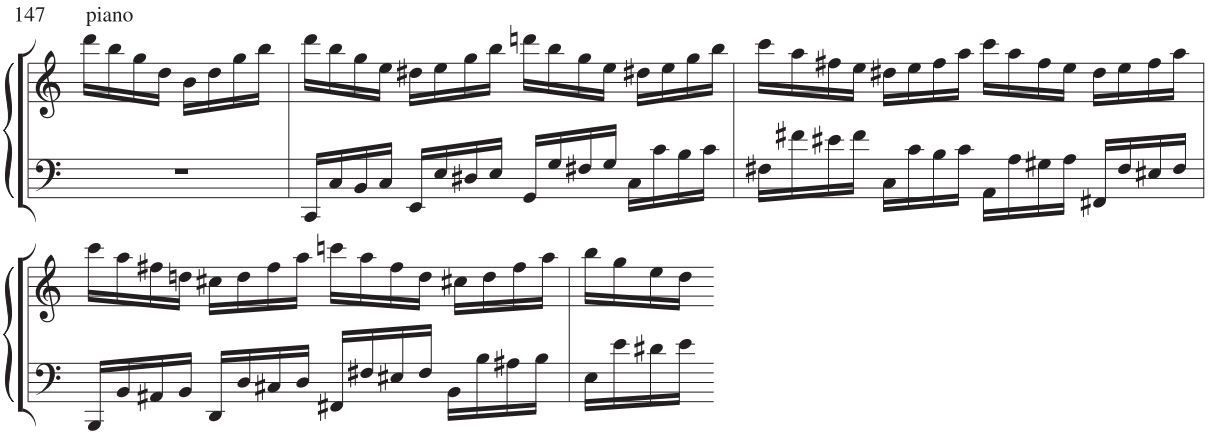
28-7 *Chopin, Barcarolle, Op. 60*



6. 9ths in Sequences by Descending 5th. Because the resolution of the 9th goes very well with root progression by descending 5th (as in V_7^9-I), 9ths are easily incorporated into sequential progressions by descending 5th. If the sequence is diatonic, as in Example 28-8, such 9ths are always suspensions. Most non-dominant 9ths that appear in music before the latter part of the nineteenth century form part of such sequential progressions. In four-part writing—and, for the most part, in free textures as well—the sequence will alternate $\frac{9}{7}$'s and $\frac{7}{5}$'s (Example 28-8b); a five-part texture permits a series of interlocking $\frac{9}{7}$'s (Example 28-8c). Both patterns illustrate the model of the descending 5th sequence with added 7ths and 9ths.

28-8 *Mozart, Piano Concerto, K. 467, I*

(a)

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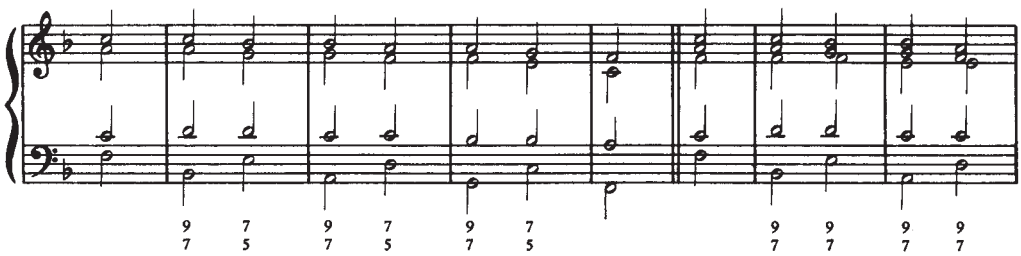
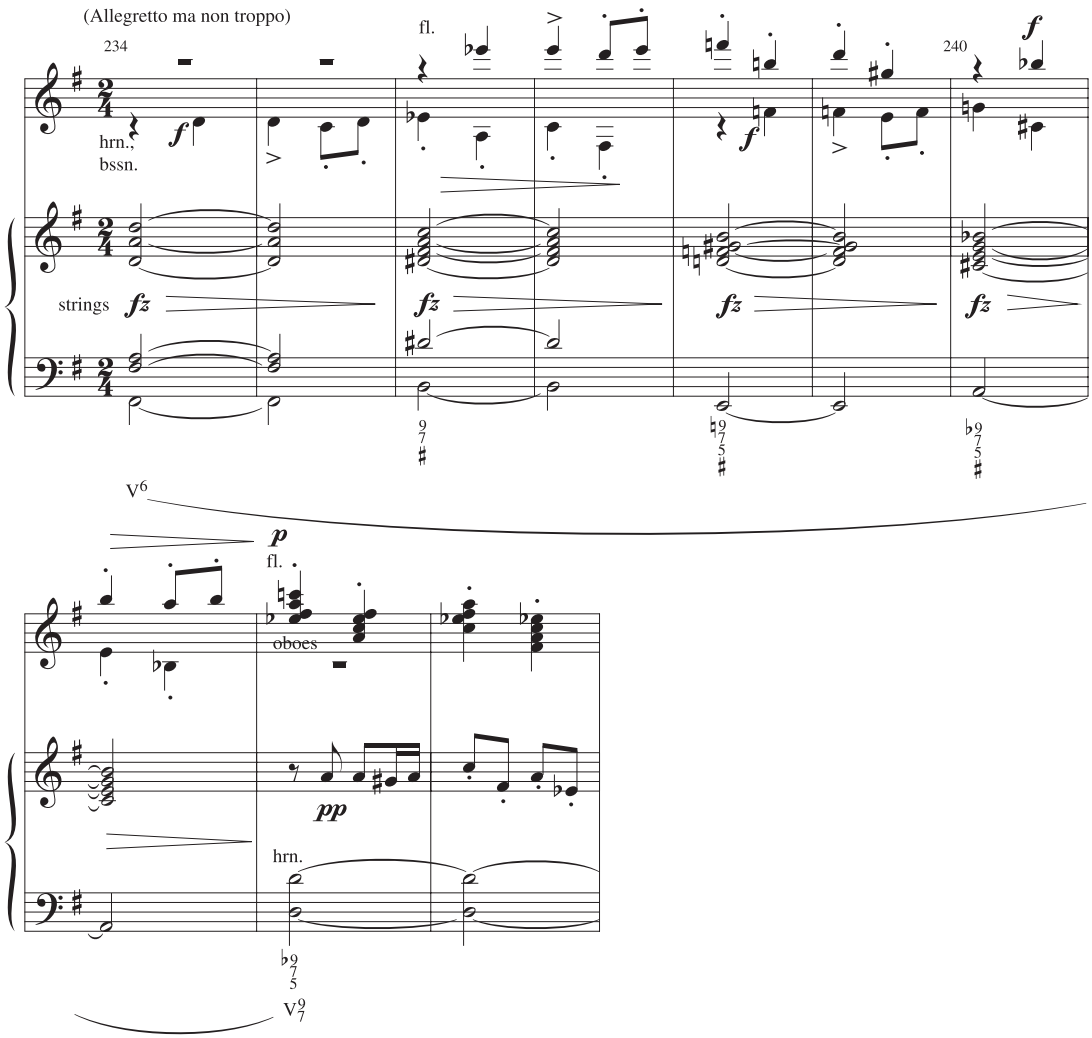
(b) $\frac{9}{7}$'s in sequence (c)

Chromatic textures sometimes contain sequences of applied V$\frac{9}{7}$'s in descending 5ths; each applied chord sounds like the dominant of the next. In Example 28-9, an excerpt from Dvořák's G-major Symphony, the 9ths are all minor. Note the curious simultaneous use of E♭ in the winds and D♯ in the strings; this enharmonic conflict arises because the winds play a melodic figure that requires the E♭.

28-9 *Dvořák, Symphony, Op. 88, IV*

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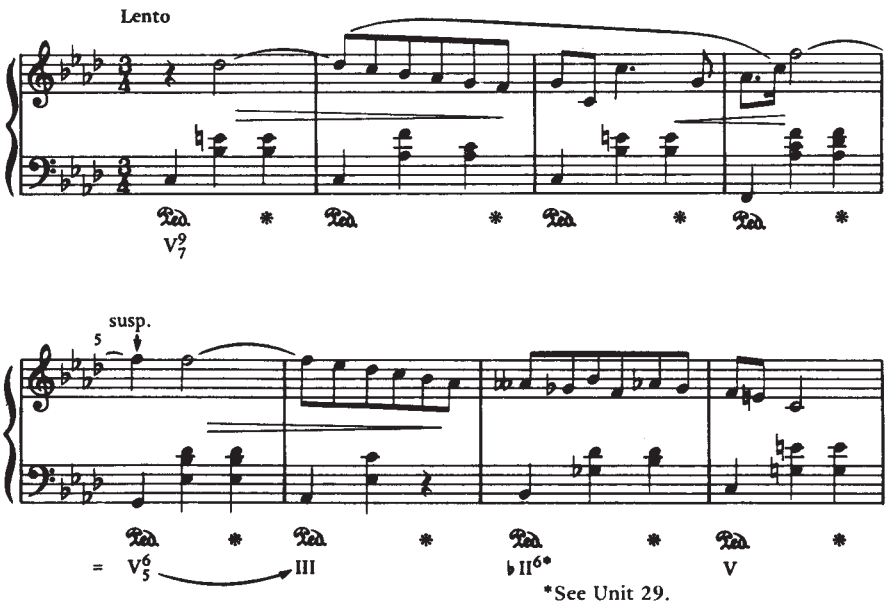
7. *Inversions of V^9_7.* V^9_7 appears most often in root position, not in inversion. Where a seeming inversion of V^9_7 occurs, it can always be regarded simply as an inversion of V^7 supporting a neighbor or suspension. In Example 28-10, for instance, the chord applied to III is easily understood as a $\frac{6}{5}$ that supports a suspension in the soprano. Dissonant formations like the one in this excerpt are not very frequent, owing to the simultaneous presence of a dissonant suspension in the soprano and the tone to which it will resolve in the "tenor" (in this case, the E♭ in the left hand). You will remember (Unit 22, Section 12) that suspensions are most effective if the tone of resolution is not anticipated in a voice other than the bass. With inverted ninth chords the dissonance always appears at the same time as the tone of resolution, which is never in the bass. The result is usually an unclear sonority and an ineffective resolution of the dissonance. In Example 28-10 the contrast in register caused by the unusually wide space between melody and accompaniment helps to maintain a clear texture.

28-10 *Chopin, Mazurka, Op. 63/2*



8. *Relationship between V^9_7 and leading-tone seventh.* Perhaps you have already noticed that the four upper notes of V^9_7 form a leading-tone seventh chord, diminished or half-diminished depending on whether the 9th is minor (vii^{o7}) or major ($vii^{ø7}$), respectively (Example 28-11).

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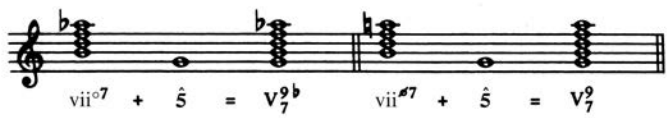
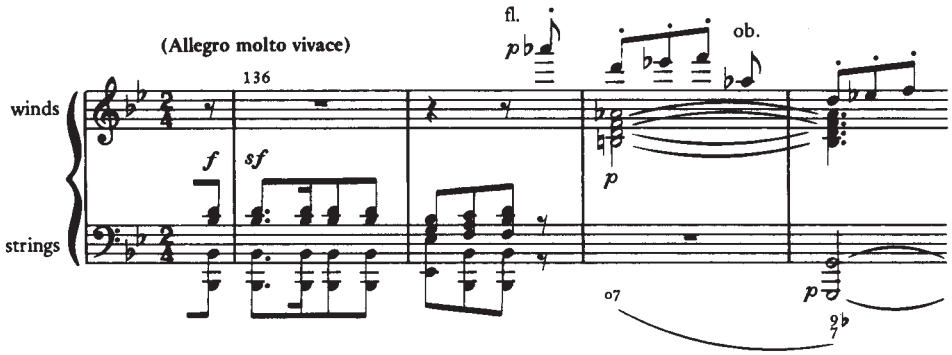
28-11 *V^9_7 and leading-tone seventh*



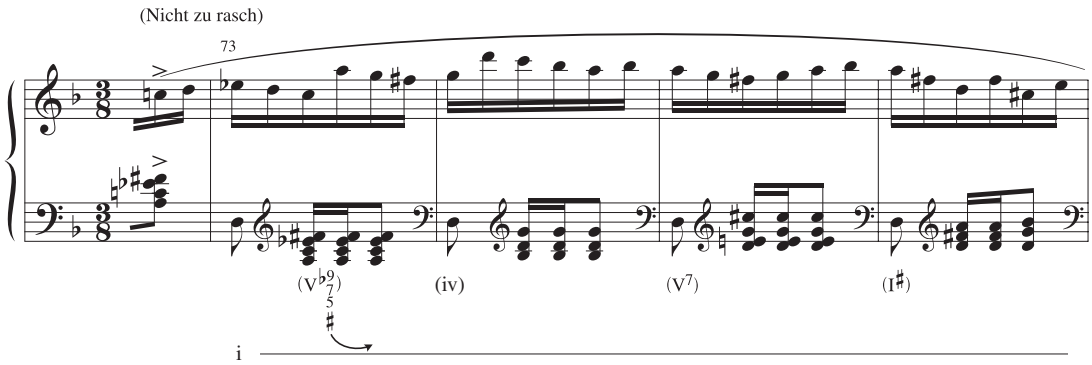
In free textures, a composer can exploit this relationship by adding $\hat{5}$ in the bass below a leading-tone seventh chord, thus creating a $^9_7$, as in Example 28-12.

28-12 *Schumann, "Spring" Symphony, Op. 38, I*



9. 9ths above a Pedal Point. We have seen that the initial tonic over a pedal point may be expressed as V^7 of IV (Example 26-18). Adding another dissonance creates the possibility of expressing the tonic as an applied dominant 9th, as in Example 28-13, where the chords above the pedal suggest i-iv-V-i, the initial i transformed into V^9_7 of iv.

28-13 *Schumann, "Das ist ein Flöten und Geigen"* *(from Dichterliebe, Op. 48)*



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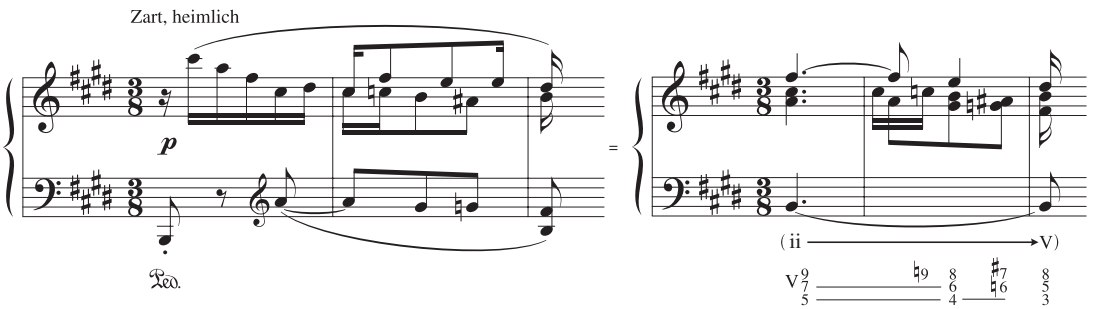
Example 28-14, also from a Schumann lied, contains a 9th that has a very different meaning. Note that the opening sonority does not contain the leading tone (the D♯ on the last sixteenth of bar 1 is simply a neighbor, not a chord tone). Because $\hat{7}$ is missing, the opening chord differs somewhat in sonority from a normal dominant 9th, although in other respects the sound is similar. Instead, it sounds like and functions as a ii above a dominant pedal. The underlying sense of bars 1 and 2 is a progression leading from ii to V over V as a pedal point. Quite often, the 5th, 7th, and 9th above V seem to form a ii chord, especially when the leading tone—such an important feature of V—does not sound.

28-14 *Schumann, "Mondnacht"* *(from Liederkreis, Op. 39)*

10. $\frac{9\text{-}8}{7\text{-}6}$. Like the ii above a dominant pedal point, $\frac{9}{7}$ as a double suspension (or, sometimes, incomplete neighbor) can sound somewhat like a 9th chord, though not necessarily one of dominant function. The similarity arises from the characteristic intervals of the 9th and 7th with their typical downward resolutions. In Example 28-15, a remarkable passage from Mendelssohn's Octet (written when he was 16), a series of rising $\frac{6}{3}$ chords is embellished by indirect suspensions of 9ths and 7ths resolving into octaves and 6ths. Because of the very complex texture, you would do best to study the reduction (b) first. As with the series of indirect suspensions shown in Example 22-22 (please review it), the successive 9-8's do not create the effect of parallel octaves. This is because of the upward leaps into the indirect suspensions and because the octaves in consecutive measures belong to different voices. Note that the rising passage culminates on a genuine V^9_7, whose sonority fits in beautifully with the suspensions earlier on. Because of the similarities of sound, composers will sometimes use the $\frac{9}{7}$ double suspension and V^9_7 in close proximity to each other.

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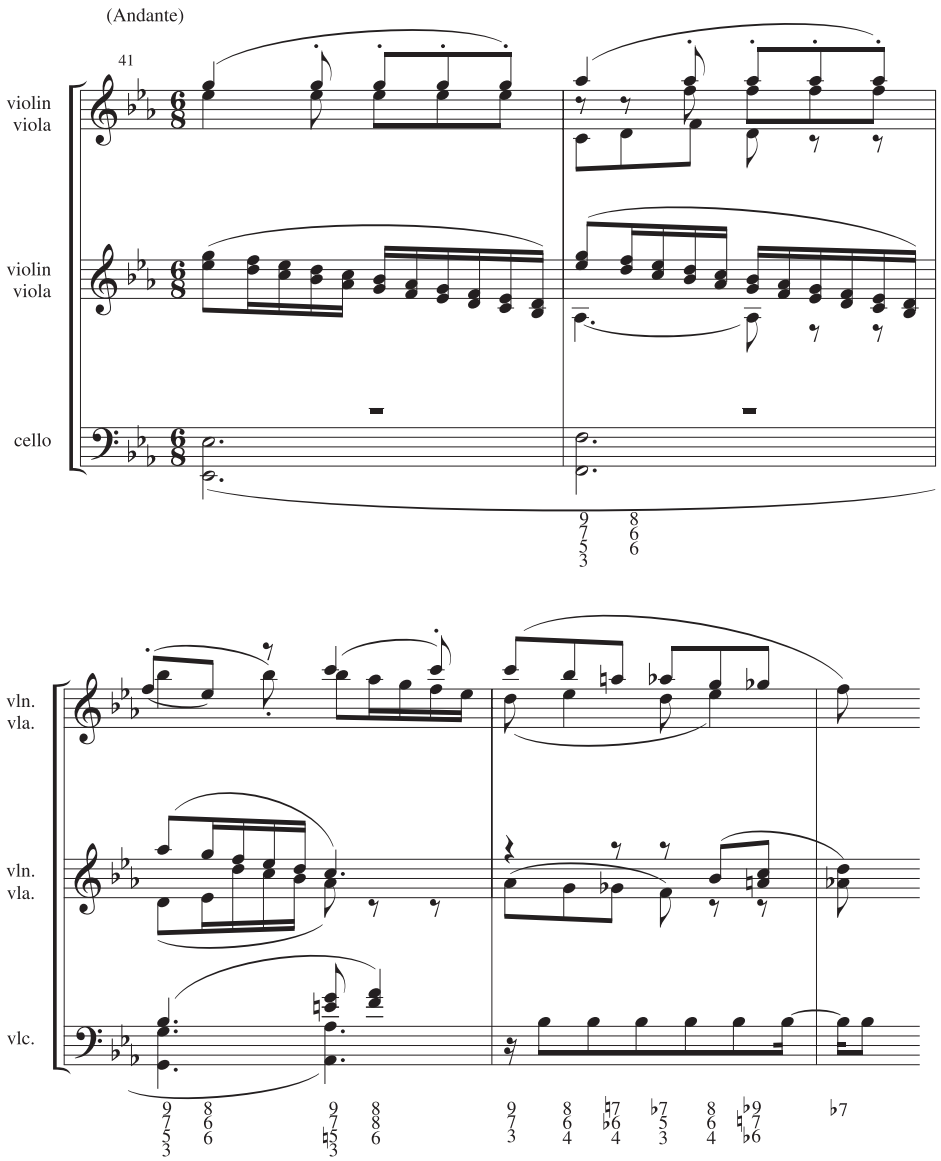
28-15

(a) Mendelssohn, Octet, Op. 20, II (slightly simplified)

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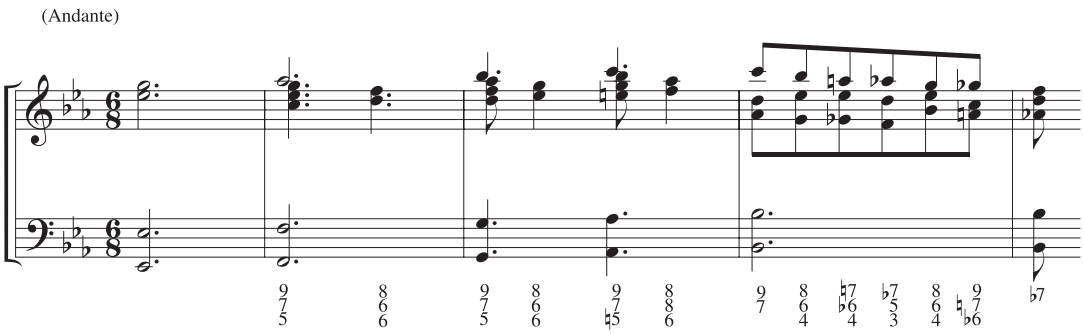
(b) reduction

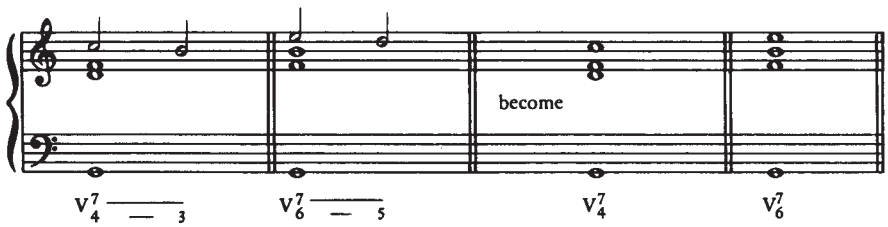


"Elevenths" and "Thirteenths"

11. V^7 with Unresolved 4ths and 6ths ("Dominant Eleventh and Thirteenth Chords"). As we know, 4ths and 6ths can appear over V^7 as suspensions or incomplete neighbors; they will normally resolve to 3rds and 5ths (Examples 28-16a and b). Sometimes, especially in nineteenth-century music, such dissonances are left unresolved, the resolutions being supplied mentally by the listener (Examples 28-16c and d).

28-16 *unresolved 4ths and 6ths*

(a) *(b)* *(c)* *(d)*



An excerpt from a Schumann *Novelette* (Example 28-17), contains an unresolved 4th over V^7 and, in a sequential repetition, over V^7 of ii. Leaving the 4ths unresolved makes them sound like anticipations of the following chord tones, $\hat{1}$ and $\hat{2}$.

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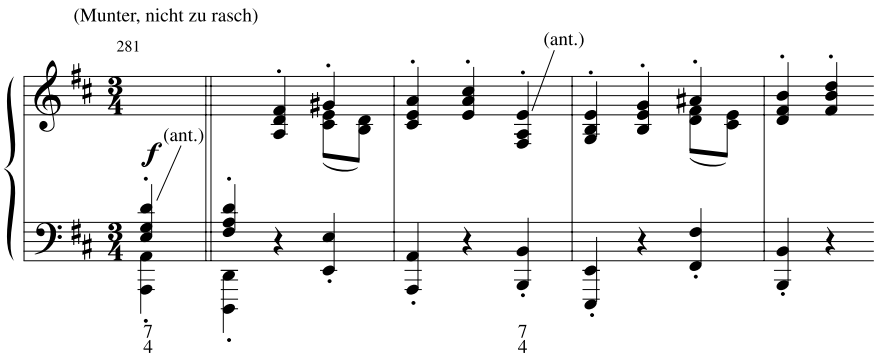
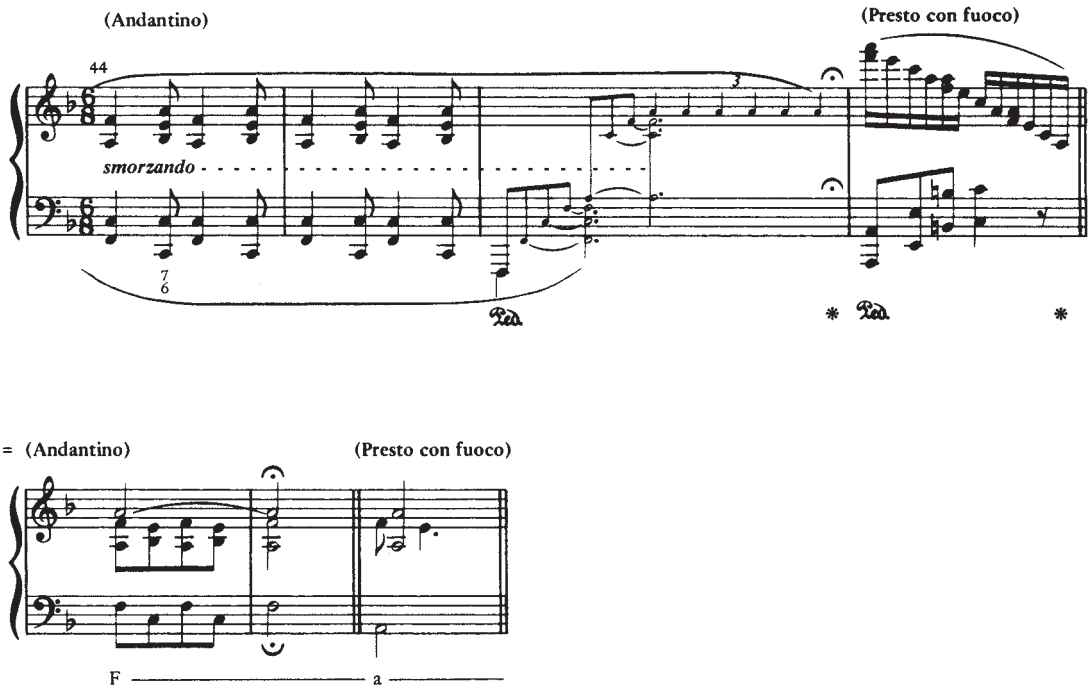
28-17 *Schumann, Novelette, Op. 21/8*



The end of the first section of Chopin's Ballade, Op. 38 (Example 28-18) contains an unresolved 6th. By leaving out the tone of resolution, Chopin creates the effect of a pedal point in the soprano; the A seems to float above the alternating tonic and dominant chords. By writing as he does, Chopin achieves a wonderful dramatic preparation for the *Presto con fuoco* in A minor that follows; the association of E and F under A is a common element that connects these two contrasting sections.

28-18 *Chopin, Ballade, Op. 38*



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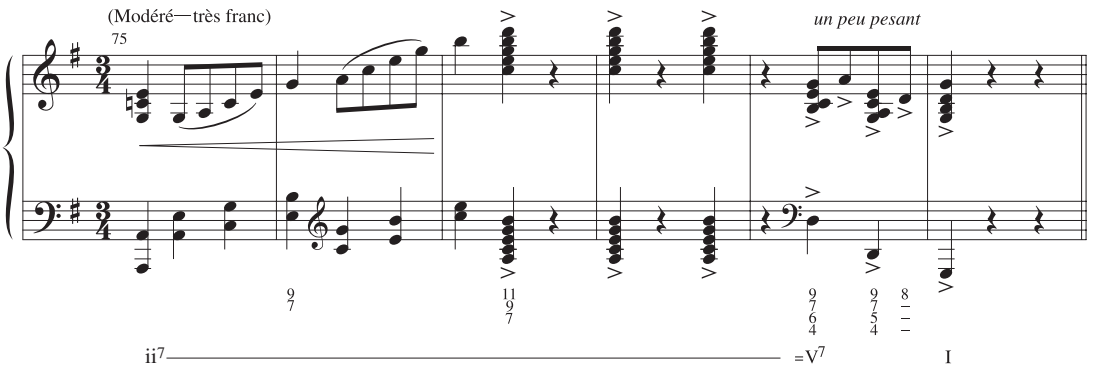
Unless the listener hears an unresolved dissonance clearly, it will create a mess rather than the expressive effect the composer intended. As a consequence, such dissonances must appear in a prominent part, almost always the soprano. Therefore, the unresolved 4th or 6th will appear *above* rather than below the 7th. Partly because these tones typically appear in the highest voice, some theorists refer to such 4ths and 6ths as "11ths" and "13ths." These terms also result from the erroneous idea that such dissonances are chordal in origin, that "9ths," "11ths," and "13ths" result from adding 3rds above seventh chords. In some twentieth-century music, dissonant chords might really result from the piling up of 3rds. In Example 28-19, for instance, a ii^7 chord is sustained while first a 9th and then an 11th are added to it; eventually all six tones sound at once.

28-19 *Ravel, Valses Nobles et Sentimentales, I*



In earlier music, however, dissonant chords originate in melodic motion, not in the piling up of vertical intervals. There is no reason, therefore, to regard "11ths" and "13ths" as anything but 4ths and 6ths that replace, rather than resolve to, 3rds and 5ths belonging to seventh chords. Some passages in music of the late nineteenth century might, perhaps, form an intermediate category. The excerpt quoted in Example 28-20 contains a melodic sequence rising in 3rds over a pedal point; the rising melodic progression produces three unresolved dissonances with the bass or inner voices: a 9th, a 4th (11th), and a 6th (13th). The cumulative effect is less dissonant than in the Ravel, for the 3rd and 5th are not retained throughout the passage. Yet in some ways—the manner in which the dissonances enter and their lack of clear contrapuntal function—the passage in Example 28-20 seems closer to the Ravel excerpt than to the Chopin and Schumann excerpts quoted earlier.

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28-20

(a) Bruckner, Symphony No. 8, III

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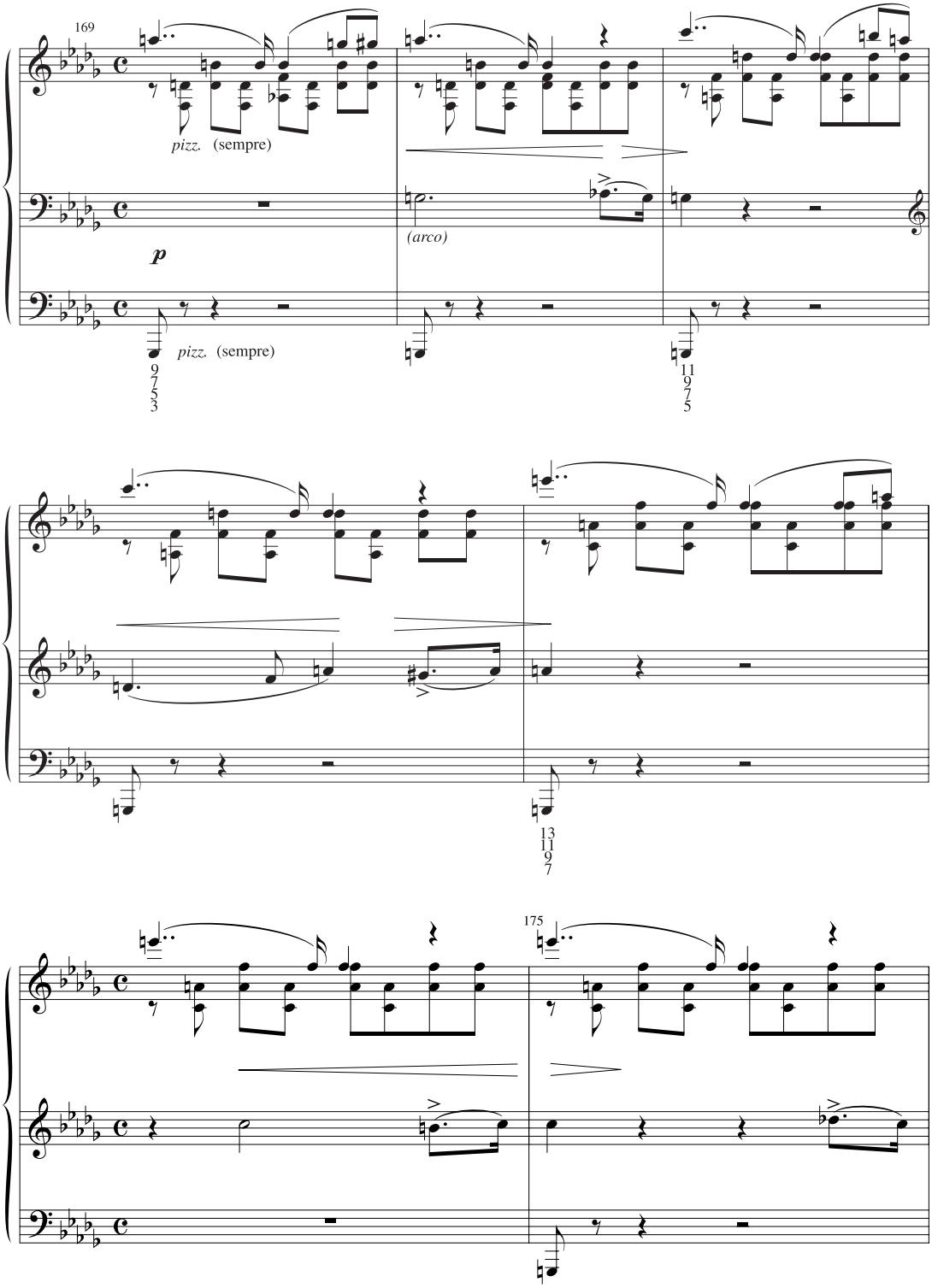
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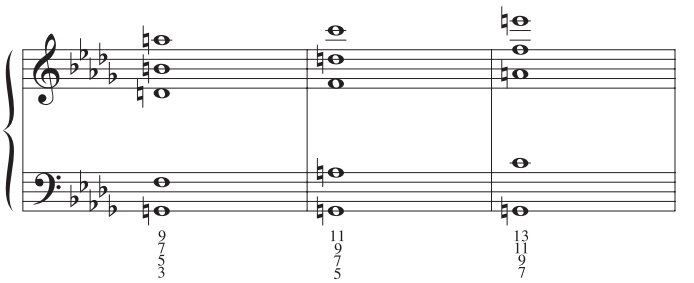
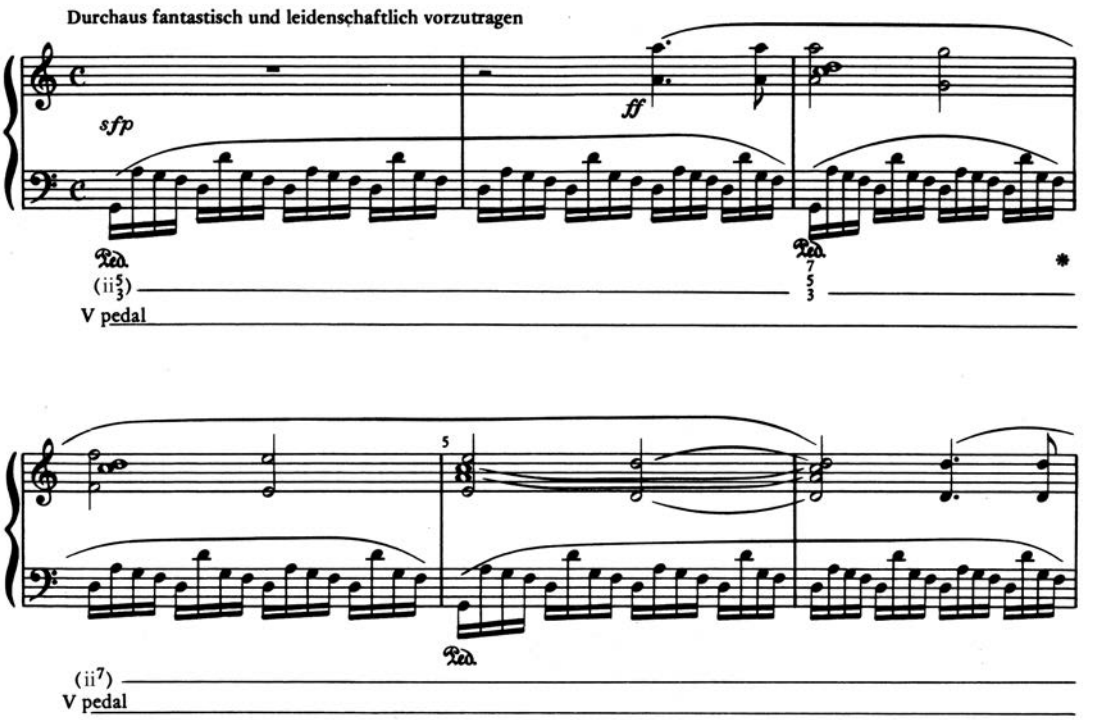
(b) reduction



Elevenths and thirteenths, like ninths, can result from a progression of chords above a pedal point. The remarkable opening of Schumann's *Fantasy* (Example 28-21) contains a ii^7 over a dominant pedal. The ii^7 moves to a V in bar 7; note, however, that the F and A of the left-hand part move to G and B only in bar 8 so that for a moment the two chords are blurred together. You might compare this excerpt with Example 28-14, also a quotation from Schumann, to see how a great composer can use very similar voice-leading and harmonic techniques to achieve vastly different expressive results.

28-21 *Schumann, Fantasy, Op. 17, I*



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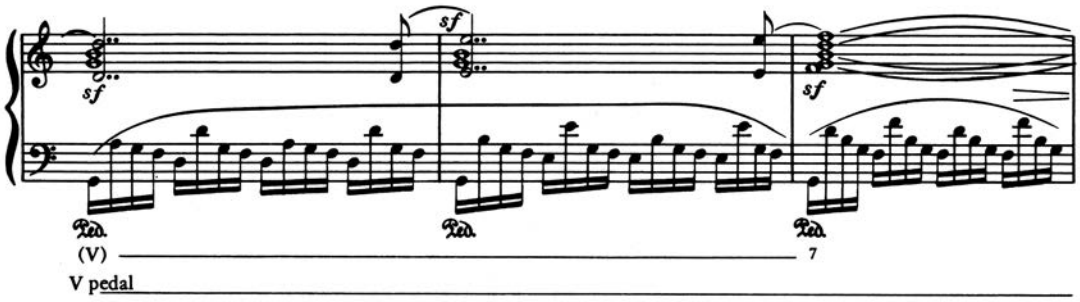
POINTS FOR REVIEW

1. The dominant ninth (V^9_7) results from adding $\hat{6}$ to V^7. $\hat{6}$ almost always appears in the soprano and functions as a suspension, a neighbor (complete or incomplete), or passing tone (less often).
2. Through mixture, $V^{9\flat}_7$ can appear in major.
3. Except, perhaps, for V^9_7 in root position, ninth chords are best understood as seventh chords that support an additional dissonant tone of figuration.
4. In principle, 9ths resolve down by step. If they accompany 7ths that resolve, however, 9ths are frequently left unresolved.
5. 9ths are normally prepared as suspensions or neighbors; unprepared 9ths, however, are frequent.
6. 9ths often appear in applied dominant chords.
7. 9ths are frequently added as suspensions in diatonic sequences by descending 5th. With chromatic alteration, such sequences can be transformed into a series of applied chords. In four voices, all such sequences must alternate $\frac{9}{7}$ and $\frac{7}{5}$.
8. Dominant ninths in inversion occur infrequently and are best regarded as inversions of V^7 accompanied by a tone of figuration.
9. The four upper tones of V^9_7 form a leading-tone seventh chord; in free textures, it is possible to introduce $\hat{5}$ in the bass below vii^{o7} or $vii^{ø7}$, thus producing forms of $\frac{9}{7}$.
10. 9ths can appear over pedal points.
11. Dominant "eleventh" and "thirteenth" chords are best thought of as dominant sevenths with unresolved 4ths and 6ths (suspensions or neighbors), almost always in the soprano, that replace the 3rd or 5th of V^7. These tones may be unresolved because they belong to the forthcoming tonic, the chord of resolution.

EXERCISES

1. Preliminaries. Write progressions that contain the following chords. Use a different key for each progression.
   a. The 9th of V^9_7 treated as a neighbor.
   b. The 9th of V^9_7 treated as a suspension.
   c. The 9th of V^9_7 treated as a passing tone.
   d. The 9th of V^9_7 not resolved.
   e. 9th chords in a diatonic sequence of descending 5ths ($\frac{9\text{-}7}{7\text{-}5}$).

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f. Applied dominant 9ths in sequence.

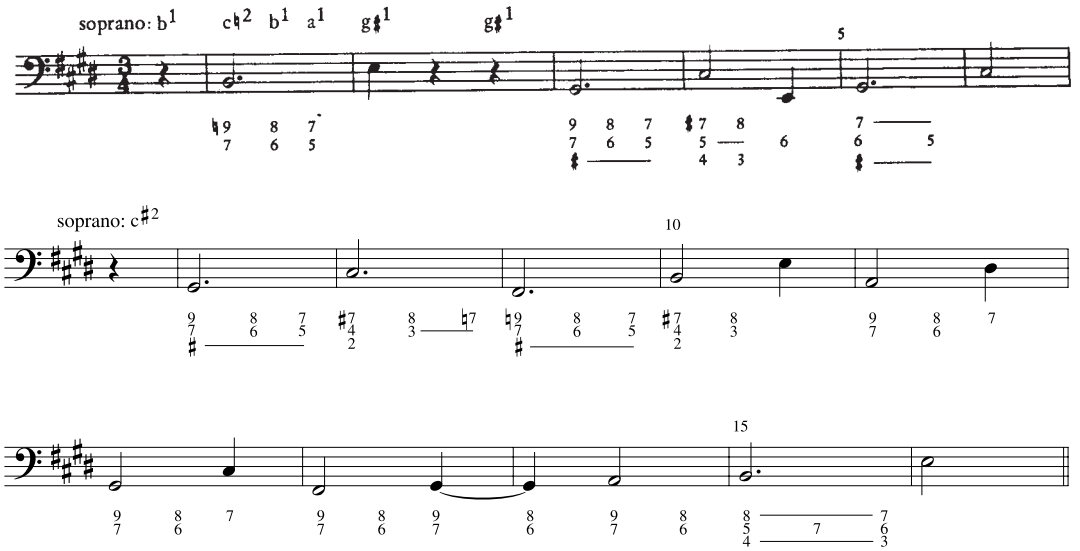
g. vii^{o7} or vii$^{\emptyset 7}$ becoming forms of V^9_7.

h. V^7 with an unresolved 4th.

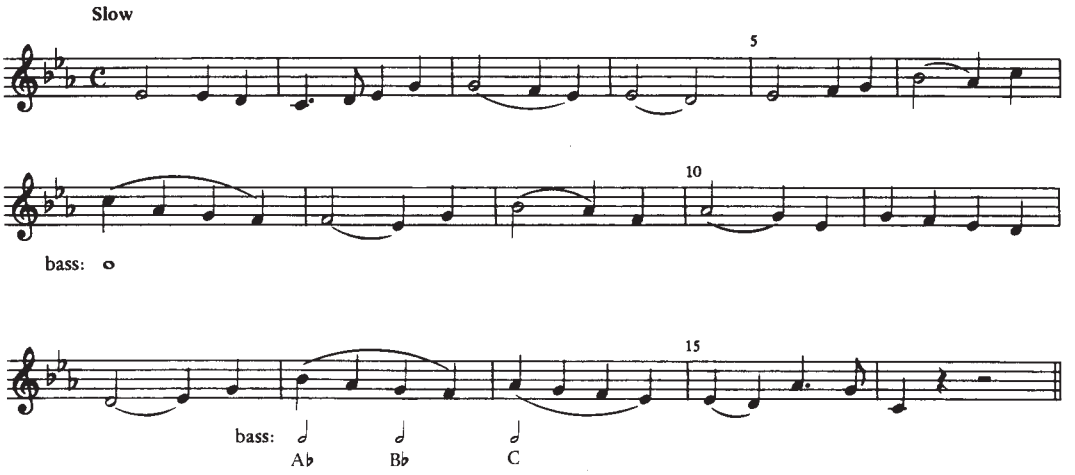
i. V^7 with a resolved 6th.

2. Using some of the progressions in Exercise 1, write complete phrases.

3. Figured bass. For bar 11ff, see Section 10.



4. Melody. The bass will be mostly half and whole notes, with some quarters.



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Guided Exercises
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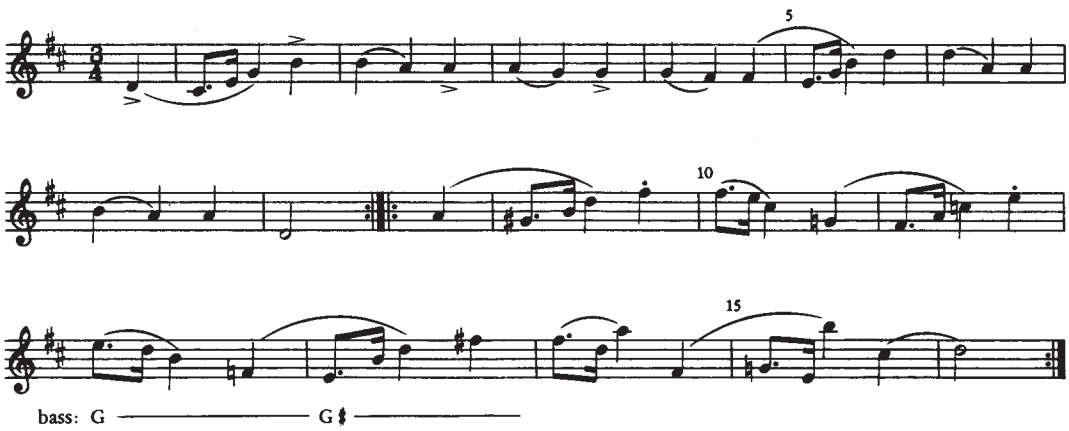
5. Waltz. Set in free keyboard style, one chord per measure. ($\frac{6}{4}$ chords may occur on "weak" measures.)



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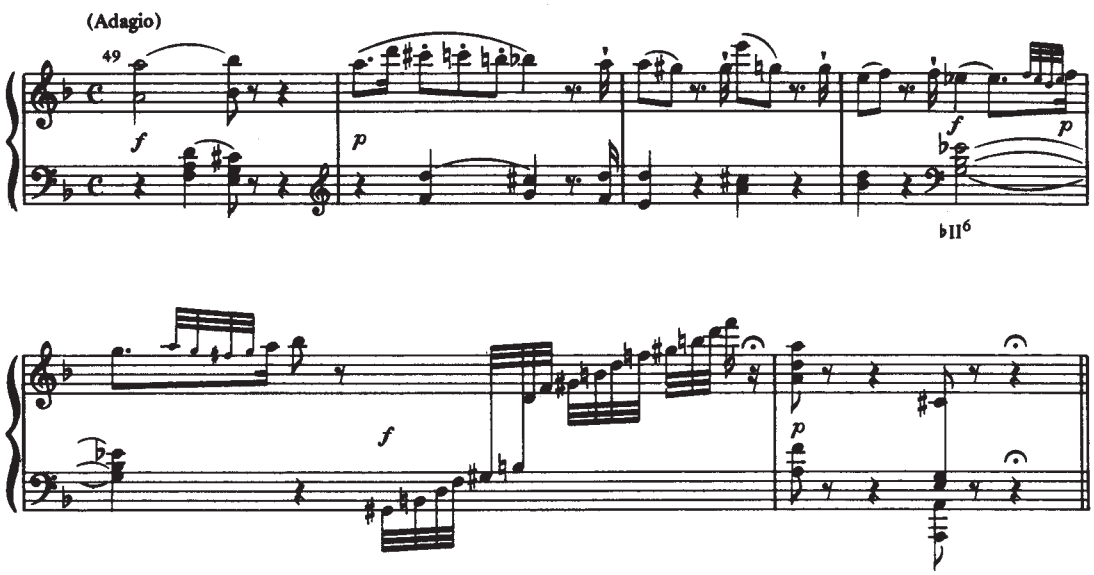
UNIT

29

The Phrygian II (Neapolitan)

29-1 Mozart, *Fantasia in D minor*, K. 397

MINDTAP

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Practice the workbook's exercises, available in PDF.

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A Chord Leading to V

1. ***The Phrygian II and the Neapolitan 6th.*** Example 29-1, an excerpt from Mozart's well-known *Fantasia in D minor*, illustrates a most important chromatic procedure. The climax of the piece (bar 52) is marked by the statement, in a sudden and dramatic forte, of an E♭-major chord in $\frac{6}{3}$ position. This chord results neither from tonicization nor from the mixture of major and minor—the two sources of chromaticism that we have already encountered. What, then, is the "foreign" E♭ triad doing in a composition in D minor? Playing the passage with E♮'s instead of Mozart's E♭'s gives us at least a partial answer. The E♮'s produce a diminished triad—the normal supertonic chord of D minor. Even in $\frac{6}{3}$ position, this diminished chord has a sound that is too meager and harsh for the extended duration and strong emphasis indicated by the composer. Mozart's E♭ triad, therefore, is a chromatic variant of ii^{o6} with $\hat{2}$ lowered to $\flat\hat{2}$; the alteration produces a major triad that replaces the normal diminished triad where the latter might give an unsatisfactory effect.

   ♭II in minor is often called the *Phrygian II*, for like II in the Phrygian mode, it is a major triad whose root lies a minor 2nd above the tonic. In using this term we do not imply that the composition has changed—even temporarily—from minor to Phrygian; we simply indicate the presence in minor of a sound normally characteristic of Phrygian. (In a genuine Phrygian piece, the chord would *function* quite differently than it typically does in minor.)

   In the Mozart *Fantasia*, ♭II appears in $\frac{6}{3}$ position. This is normal; the root position occurs much less frequently. Most musicians refer to ♭II^6 as the *Neapolitan 6th*—supposedly in reference to the school of composers active in Naples in the latter part of the seventeenth century and the beginning of the eighteenth. The Neapolitan composers did indeed use the chord, but so did some of their contemporaries located elsewhere—Henry Purcell, among others. The symbol of N^6 (N for Neapolitan) sometimes appears in harmonic analyses; we do not recommend using it, for it fails to convey the relation of the chord to diatonic ii^{o6} in the minor mode.

2. ***Harmonic and Melodic Functions.*** Just like diatonic ii^{o6}, the Neapolitan 6th typically moves to V or V^7, most often at a cadence, and therefore functions as a chromatically altered intermediate harmony. Sometimes the V follows immediately. At other times, as in Example 29-1, the bass passes chromatically through $\sharp\hat{4}$ with an applied °7 (or $\frac{6}{5}$) connecting the Neapolitan chord and V. Frequently (again, Example 29-1), a cadential $\frac{6}{4}$ expands V. Placing $\flat\hat{2}$ in the soprano creates the greatest intensity; therefore, that arrangement is the most usual, especially at cadences. But $\hat{4}$ and $\hat{6}$ can also occur in the soprano. In Example 29-1, the melodic figuration touches on all three chord tones, but we hear $\flat\hat{2}$ as the main one.

   The Neapolitan chord has a characteristically individual quality that is unmistakable, though very difficult to describe in words. In part, this quality results from a tension between melodic and harmonic tendencies. $\flat\hat{2}$ is melodically active in the direction of $\hat{1}$, just like all tones situated a minor second from a stable degree of the scale. If melody were the only consideration, $\flat\hat{2}$ would proceed immediately to $\hat{1}$ as its goal. But the ♭II^6 chord represents supertonic

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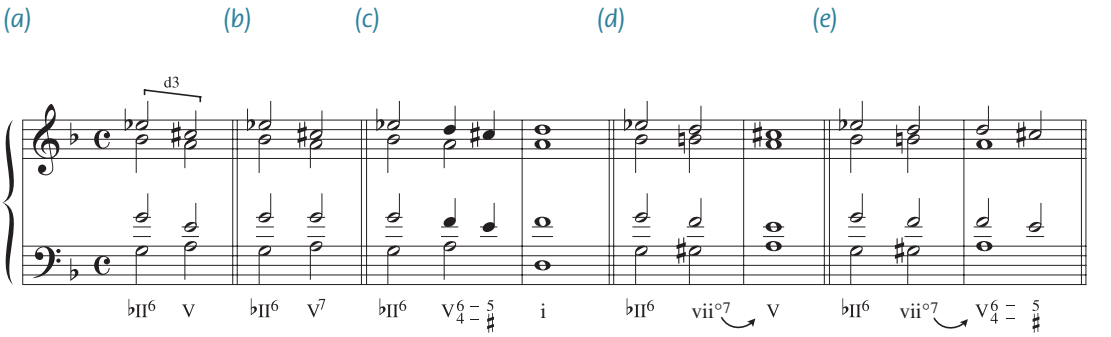
harmony and tends to move to V. When V appears, $\flat\hat{2}$ must be replaced by $\natural\hat{2}$—usually in another voice; thus, harmonic necessities prevent the immediate progression of $\flat\hat{2}$ to $\hat{1}$. ($\flat\hat{2}$ might seem to move directly to $\hat{1}$ if a cadential $\frac{6}{4}$ or an applied chord follows $\flat$II^6, but this ($\hat{1}$) functions as a passing tone, not a melodic goal.) Only if V moves on to the tonic does $\hat{1}$ appear as a goal. The chromatic adjustment of $\flat\hat{2}$ to $\natural\hat{2}$ and the impossibility, in normal circumstances, of an immediate motion from $\flat\hat{2}$ to a goal $\hat{1}$ can give a great deal of intensity to progressions involving $\flat$II^6. This is often a compelling reason for using $\flat$II^6, even in places where diatonic ii$^{\circ 6}$ would not be incorrect, and accounts for the frequent use of $\flat$II^6 at climactic moments, at fermatas, before rhetorical silences, and so forth.

3. *Voice Leading.* Example 29-2 shows some typical progressions in a four-part texture without figuration. The main point to remember is that $\flat\hat{2}$ *tends to move down*. If the Neapolitan 6th goes directly to V (or V^7), $\flat\hat{2}$ skips down to the leading tone; the melodic line will contain a diminished 3rd (Examples 29-2a and b). If there is a $\frac{6}{4}$ (Example 29-2c), a passing applied chord (Example 29-2d), or both (Example 29-2e), the diminished 3rd is filled in by a passing tone. The diminished 3rd, even when filled in, often makes for a peculiarly intense melodic line, especially when it occurs in the soprano. The rising chromatic line of the bass and the descending chromatic line of the soprano make for an effective contrast; compare Example 29-2e with Example 29-1, measures 52ff.

In general, the bass ($\hat{4}$) is the best tone to double. This doubling allows one to prepare the 7th of V^7 (Example 29-2b); note that V^7 will be incomplete. Doubling $\flat\hat{2}$ in an inner voice is a possibility, though the motion from $\flat\hat{2}$ to the leading tone should occur in the top voice (see Example 29-3d). One further point: $\flat\hat{2}$ and $\natural\hat{2}$ form a cross relation when $\flat$II^6 moves directly to V$^5_3$ (Example 29-2a). The cross relation is softened if a $\frac{6}{4}$ or applied chord decorates the progression, but it does not create a bad effect even in immediate succession. You may use it freely.

29-2 $\flat$II^6 *moving to* V



4. *Avoiding the Direct Progression $\flat\hat{2}$-$\natural\hat{2}$.* Composers usually avoid the *direct* chromatic progression $\flat\hat{2}$ (over $\flat$II^6) to $\natural\hat{2}$ (over V), especially when it occurs in the soprano. The melodic motion seldom sounds convincing; also, it can result in bad voice leading—a melodic augmented 2nd and, possibly, parallel octaves (Examples 29-3a, b, and c). (If $\flat\hat{2}$ is doubled in an inner voice, it may go to $\natural\hat{2}$, as in Example 29-3d.)

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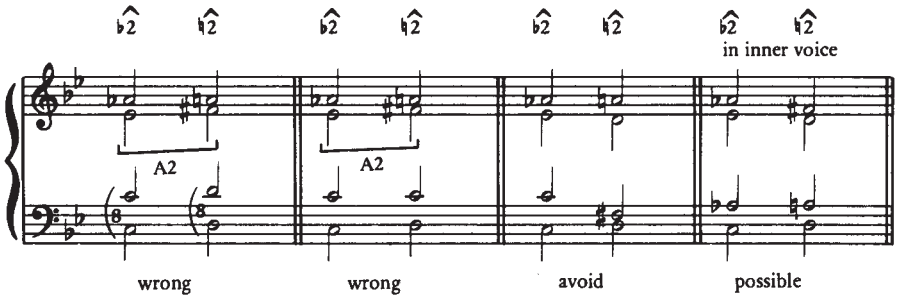
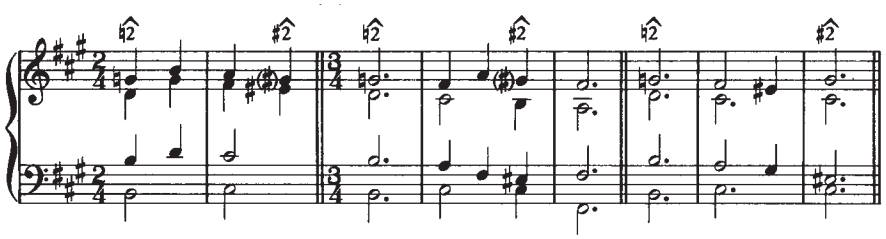
29-3 *♭2̂ moving directly to ♮2̂*



A soprano progression ♭2̂ to ♮2̂, therefore, will usually occur *indirectly;* other tones will be interpolated between the variant forms of 2̂. Example 29-4 shows the most important possibilities; all of them involve ascending chordal skips. (Also compare Example 29-5, bars 41–43.)

29-4 *indirect progression ♭2̂-♮2̂*

5. *Melodic Contrast between ♭2̂ and ♮2̂.* The contrast between "dark" ♭2̂ and "bright" ♮2̂ can have great expressive power, especially when both tones appear in the soprano. Composers often use this contrast as an important compositional feature. One possibility is to state a musical idea twice with diatonic ii$^{\circ 6}$ (or $\frac{6}{5}$) in one statement and the Neapolitan chord in the other. A remarkable instance occurs at the end of the Menuetto from Mozart's G-minor Quintet (Example 29-5), where the varied repetition sounds like a despairing answer to the "questioning" deceptive cadence before it. And the third statement—in major—of the same idea, at the beginning of the trio, takes on added significance through its contrast with the dark color of the preceding phrase—a color to which the Neapolitan chord contributes so much.

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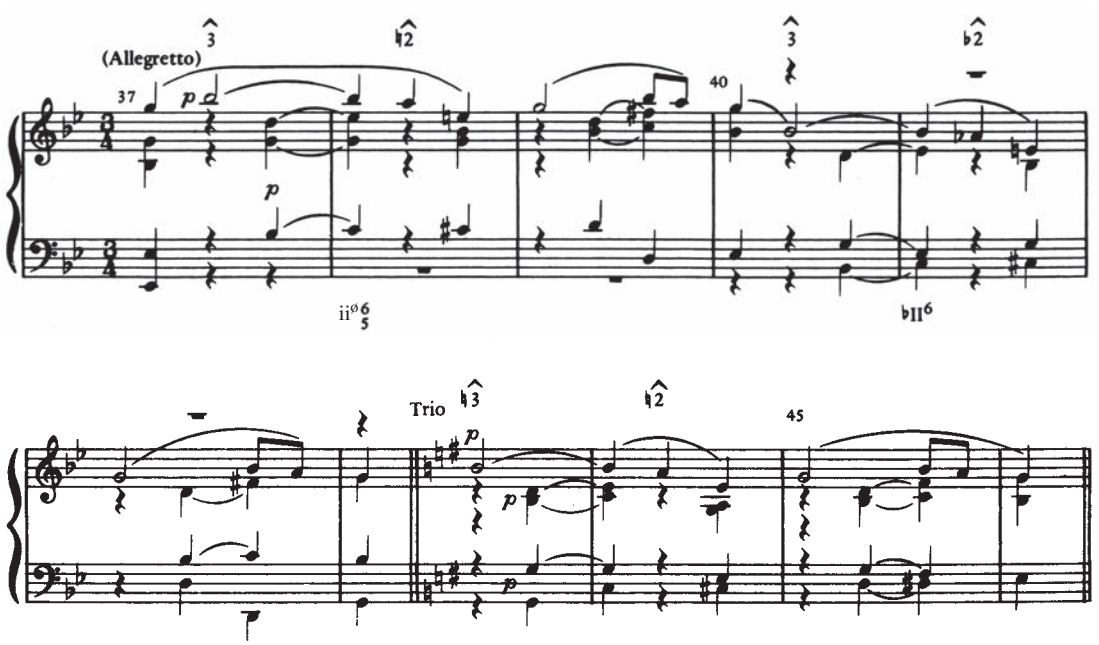
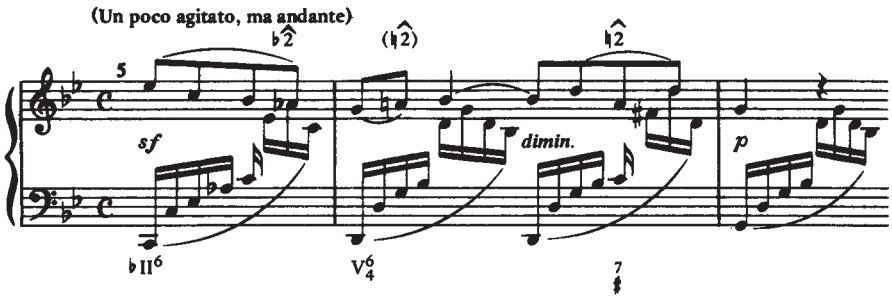
29-5 *Mozart, String Quintet, K. 516, III*

Another way to contrast ♭$\hat{2}$ and ♮$\hat{2}$ is to feature the latter as the soprano tone of V. In Example 29-6, the A♭ of the Neapolitan sets off and emphasizes both the A♮ of V and the passing A♮ over the cadential $^6_4$.

29-6 *Mendelssohn, Songs without Words, Op. 102/4*



6. *Leading to the Neapolitan 6th.* Any chord that leads to ii^{ø6} in minor can also precede ♭II^6. VI (as in Example 29-1) is a very frequent possibility; so is i. Using i^6 or III allows a stepwise ascent in the bass; Example 29-5 shows i^6, and Example 28-10 shows a similar use of III. We have already examined the intermediate function of ♭II^6 and its close relationship to ii^{ø6} in minor. Frequently ♭II^6 comes from iv through a 5-♭6 progression (as in Example 29-7); note the similarity of iv-♭II^6 to the diatonic intermediate pair iv-ii^{ø6} (review Example 10-20).

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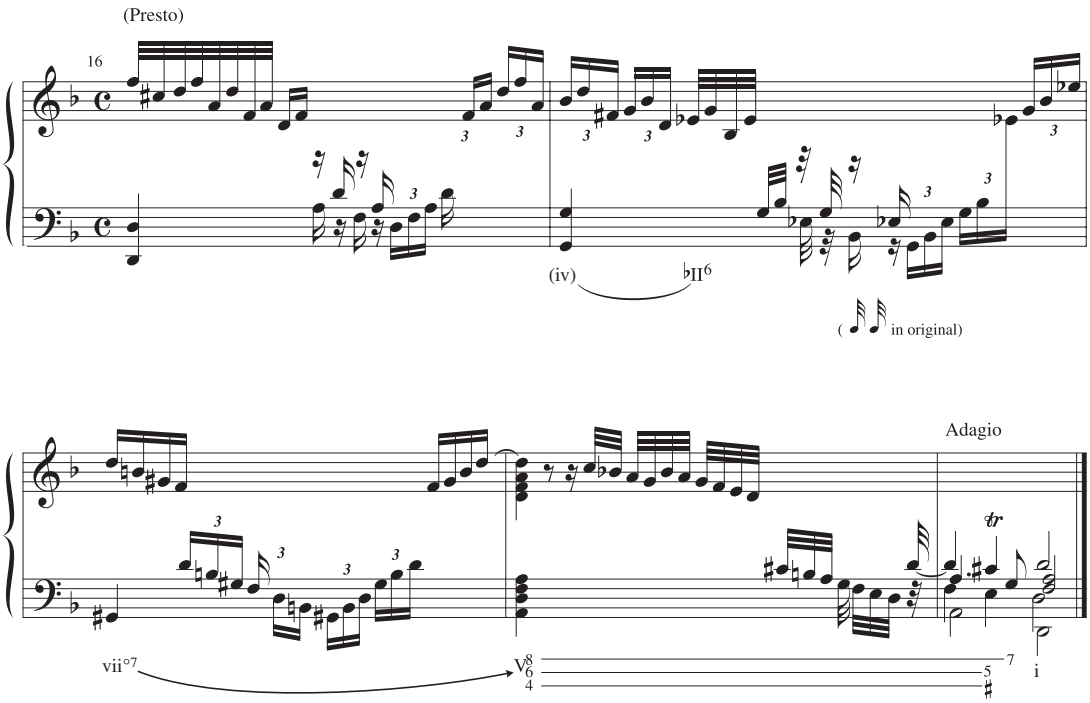
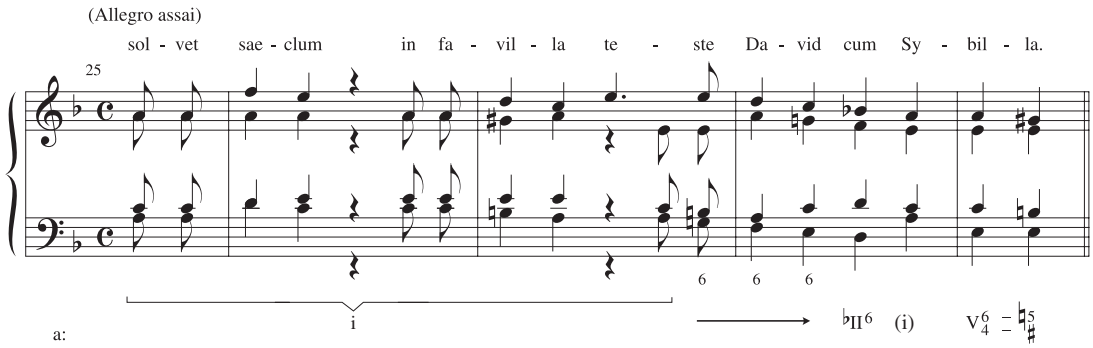
29-7 Handel, Harpsichord Suite No. 3, I

The Neapolitan 6th can form an excellent goal for a series of $\frac{6}{3}$ chords in parallel motion, as in Example 29-8. In this excerpt, the $\frac{6}{3}$'s lead from a tonic to the cadential Neapolitan chord. In bar 28, a seeming tonic is interpolated between ♭II^6 and V; this (i) supports a passing tone in the soprano and is not part of the harmonic framework.

29-8 Mozart, Dies Irae (from *Requiem*, K. 626)



translation: All shall crumble into ashes, as David and the Sybil prophesied.

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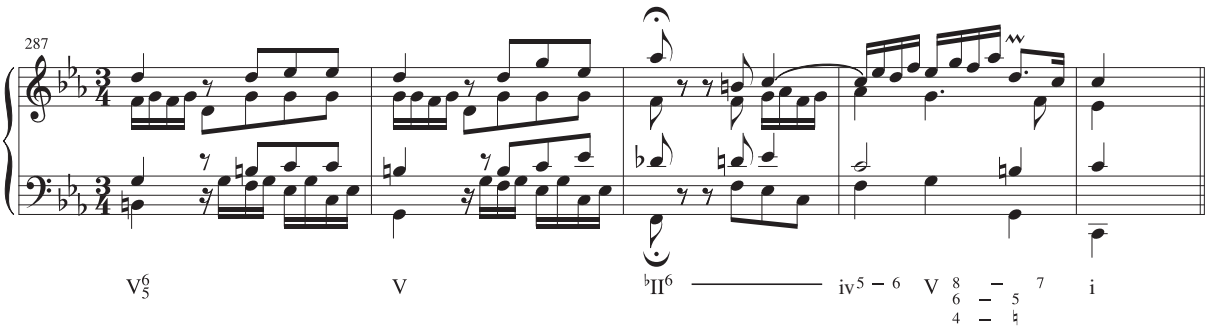
Example 29-9a shows a passage from the conclusion of Bach's magnificent fugue from the Passacaglia and Fugue in C minor; here he uses the Neapolitan 6th as part of a deceptive cadence, forming the climax of the entire composition. Notice that Bach intensifies the dramatic effect of the chord with a fermata followed by rests (which suggests the possibility of a brief, improvised cadenza). Like the vii°7 of V used deceptively by Mozart in his "Kyrie" (Example 26-16), the Neapolitan sixth in Example 29-9a is built on a lower neighbor to V. In this passage, however, a diatonic intermediate iv—in this context an extension of ♭II6—appears before the return of V7 at the authentic cadence (Example 29-9b). The intervening (V^4_2-i6), another instance of a subordinate progression, permits Bach to restore ♮$\hat{2}$ in the tenor before the authentic cadence (the rests soften the effect of moving directly from D♭ to D♮). The bracket above Example 29-9b indicates that the unexpected Neapolitan 6th serves a motivic purpose: The motion G-A♭, a motive recurring throughout the Passacaglia and its related Fugue, is thrown into sharp relief by the Phrygian II.

29-9 *Bach, Passacaglia and Fugue in C minor*

(a) Fugue



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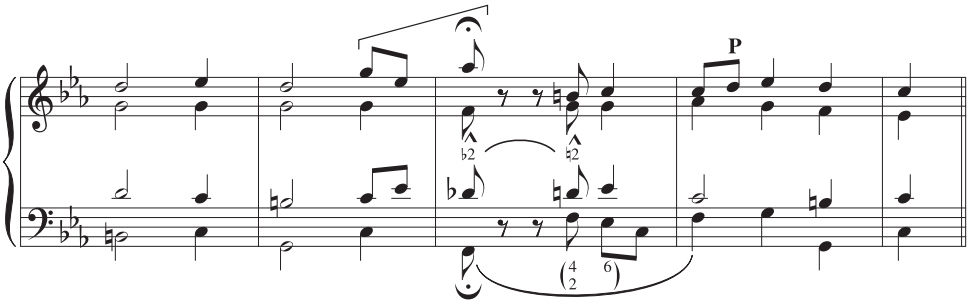

7. *Moving to V^4_2 and vii°$^4_3$.* Like diatonic ii°6 or iv, the Neapolitan 6th can move to an inverted dominant (or to a diminished 7th) in places where a strong cadential V is not needed. Of the several possibilities, the most important is moving over a sustained bass to V^4_2 (Example 29-10) or to vii°$^4_3$.

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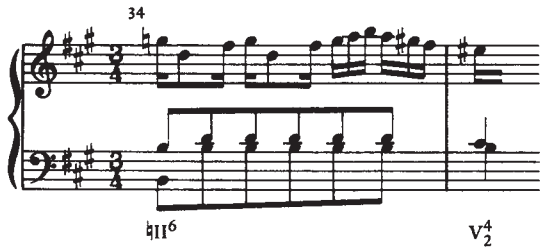
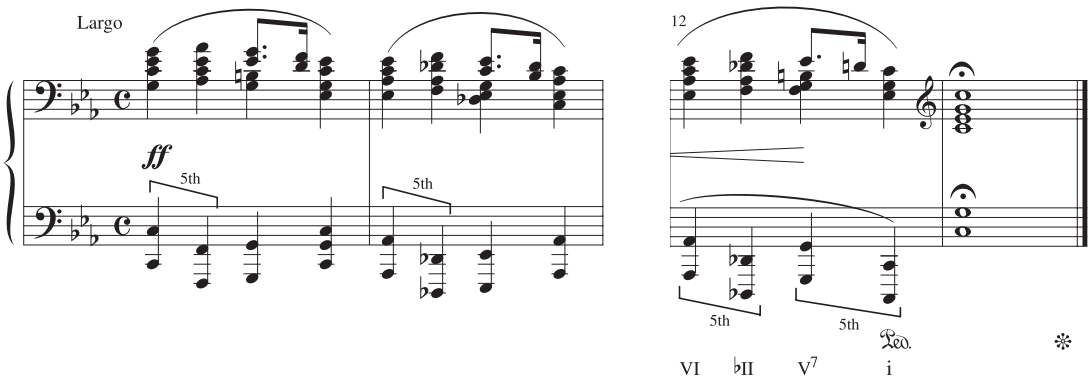
29-10 *Bach, Well-Tempered Clavier II, Prelude 14*



8. *The Phrygian II in $\frac{5}{3}$ Position.* The $\frac{5}{3}$ position of ♭II occurs much less often than the $\frac{6}{3}$. An immediate motion to V, as at a cadence, creates a dissonant leap—a diminished 5th or an augmented 4th—in the bass. As a result, the root position of ♭II sounds somewhat disconnected from V and does not lead to it as naturally and convincingly as does the Neapolitan 6th. As a cadential chord, therefore, ♭II$^{5}_{3}$ will usually occur for a specific compositional reason. In Example 29-11, using it allows Chopin to state an important motivic element—a descending 5th in the bass.

29-11 *Chopin, Prelude, Op. 28/20*



The Phrygian II in root position moves very convincingly to V^{6}, V$^{6}_{5}$, or vii°^{7}. Example 29-12 illustrates; note that the characteristic diminished 3rd now occurs in the bass (notice the subsequent imitation in the right hand of the melodic motion D♭-C-B♮). Usually, as in our example, a passing tone fills in the diminished 3rd; the passing tone often supports a $\frac{6}{3}$ or $\frac{6}{4}$ chord.

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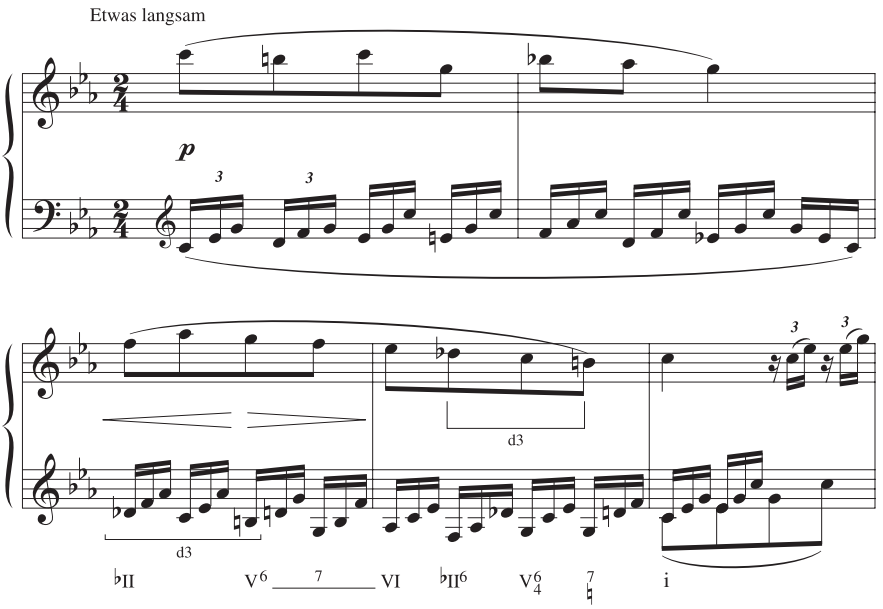
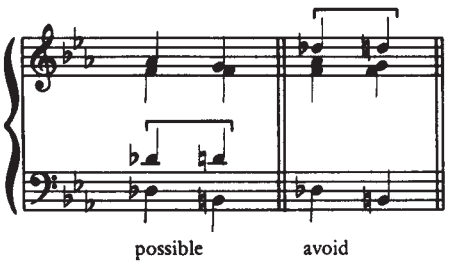
29-12 *Schubert, "Die Krähe"* *(from Winterreise, D. 911)*

If ♭$\hat{2}$ is doubled in an inner voice (the most usual disposition), it may move directly to ♮$\hat{2}$. But remember to avoid this melodic progression in the soprano (Example 29-13).

29-13 ♭II-V^6_5

(a) *(b)*



9. *♭II in Major and Enharmonic Notation.* The real home of ♭II is the minor mode; the chord occurs much less readily in major. The fact that ii in major is not a diminished triad eliminates one reason for introducing ♭$\hat{2}$. In addition, the intense, "dark" character of ♭II makes it more generally suited to minor than to major. Finally, producing the chord in major requires *two chromatic alterations:* ♮$\hat{2}$ to ♭$\hat{2}$ and ♮$\hat{6}$ to ♭$\hat{6}$. Both alterations create augmented 2nds (with $\hat{3}$ and $\hat{7}$), a feature that can make for awkward melodic lines. In eighteenth-century music, ♭II usually appears in major as part of a larger mixture with minor. Thus, in Example 29-14, the introduction of A♭ minor in bar 73 prepares the Neapolitan

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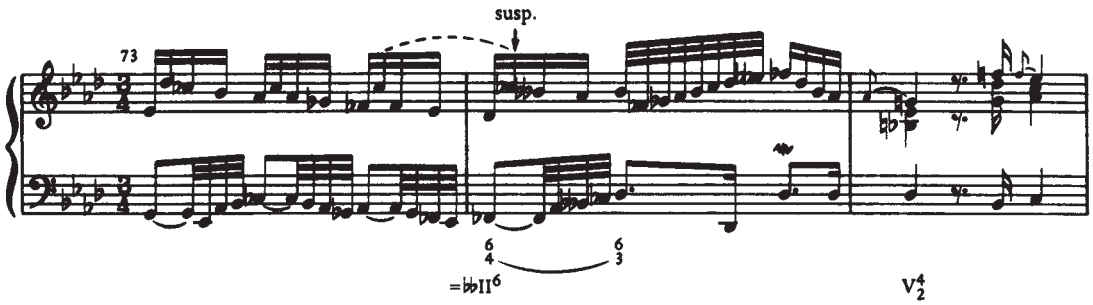
chord of bar 74. The main bass tone of this chord is D♭; the chord, therefore, is in $\frac{6}{3}$ position. At its onset, however, the chord is a $\frac{6}{4}$—a stable one, since it moves immediately to the $\frac{6}{3}$ position. Note the expressive contrast between f♭² and f♮² in bars 74–75.

29-14

(a) Bach, Well-Tempered Clavier II, Prelude 17



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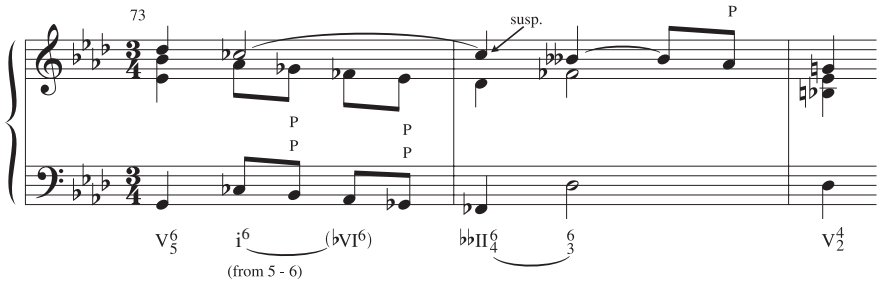
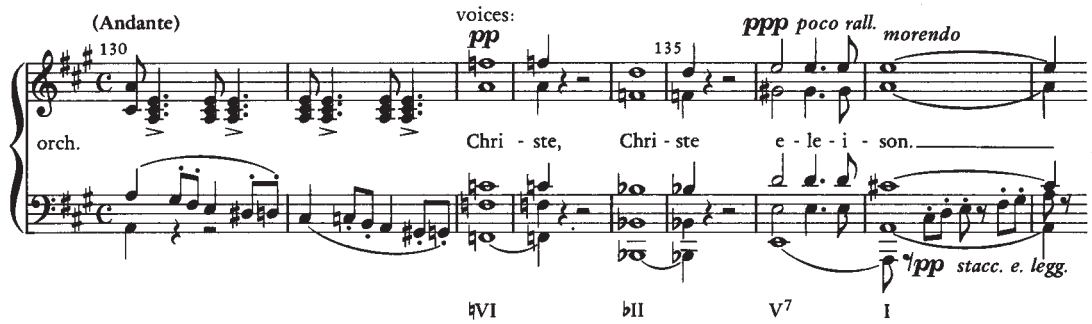


In Example 29-15, ♮VI precedes ♭II and acts as its dominant. The expressive power of the Phrygian II is used to beautiful effect in this excerpt. It occurs at the end of a movement in major; the unexpectedly dark color of ♮VI-♭II gives a peculiarly inward quality to these last exclamations of "Christe, Christe."

29-15 *Verdi, Kyrie* *(from Requiem)*

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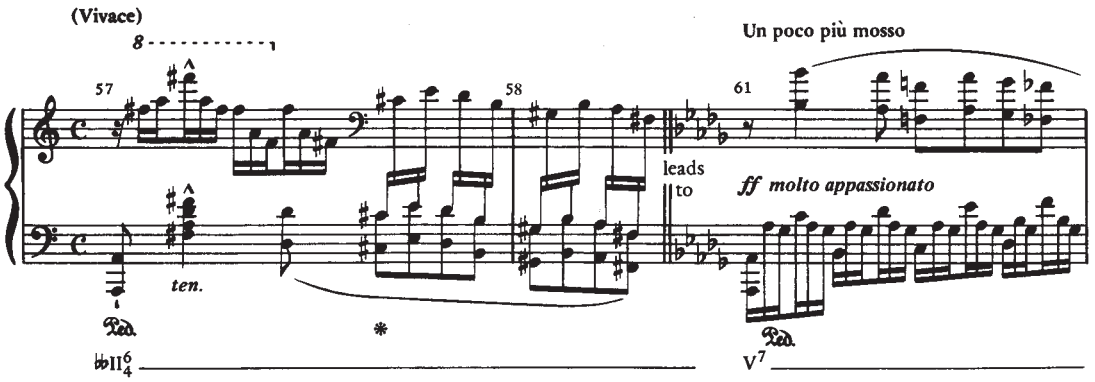
Sometimes, especially in nineteenth-century music, ♭II will come directly from a chord that belongs to major rather than from one that results from mixture with minor. Use your ears if you attempt this procedure; progressions that lead convincingly to ♭II in minor can sound unnatural in major. In most situations, the best strategy is to approach $\flat II^6$ from a tonic in first inversion.

In major keys with four or more flats in the signature, ♭II will require one or two double flats as accidentals. Especially in figurated textures, this can complicate reading the music (as some of you surely observed in studying Example 29-14). Composers, therefore, will sometimes adopt an *enharmonic notation* for ♭II; in G♭ major, for instance, they might write it as G♮-B♮-D♮ instead of A♭♭-C♭-E♭♭. To understand such passages you must be guided by the sound, not the notation. Such enharmonics are sometimes referred to as *notational,* because they mostly occur to facilitate reading. In later units, we will examine enharmonics that involve *functional* reinterpretation.

10. The $\frac{6}{4}$ Position. An enharmonic notation occurs in Example 29-16, where the D-major chord stands for E♭♭ major—the Phrygian II of D♭ major. This excerpt shows the most unusual position of ♭II—the "Neapolitan $\frac{6}{4}$." The bass moves by stepwise descent to the root of V^7, thus inverting the typical ascending bass motion of the Neapolitan 6th. Here, the $\frac{6}{4}$ has a linear function—its bass is upper neighbor to V. At the same time, it has a harmonic meaning, for the root progression ♭II-V is heard quite clearly. Because of the harmonic meaning, this is a stable $\frac{6}{4}$—stabilized not by its own root position (or $\frac{6}{3}$) but by the associations evoked by its progression to V.

29-16

(a) Liszt, Waldesrauschen



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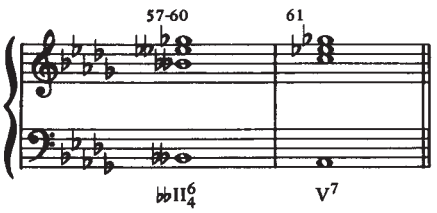

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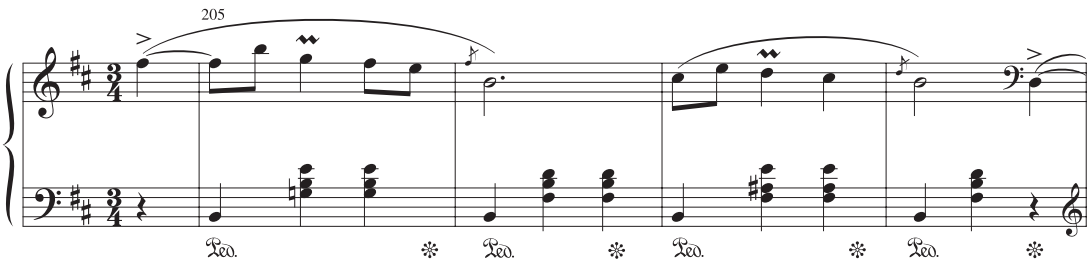
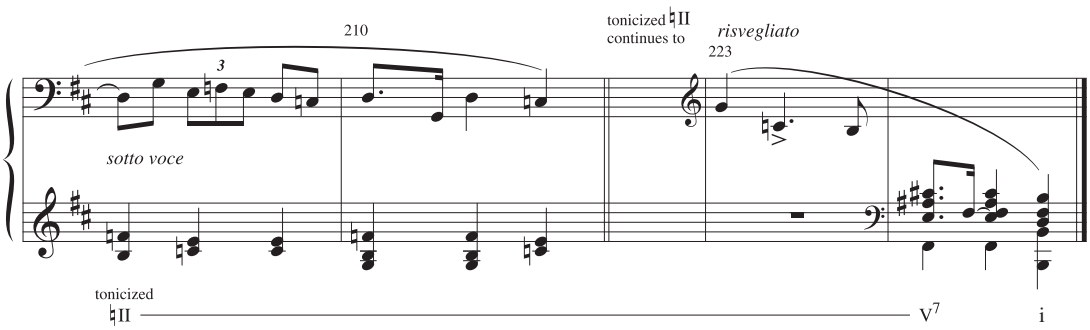
11. *Tonicizing ♭II.* Tonicizations of ♭II occur frequently—especially those in which the chord is preceded or expanded by its own dominant. The expansions—though they may be fairly long—do not impede the eventual progression from ♭II to V, as we can see in Example 29-17. In this excerpt, note how the expressive effect of the Phrygian chord is enhanced by the sudden low register of the melodic line.

29-17 *Chopin, Mazurka, Op. 33/4*

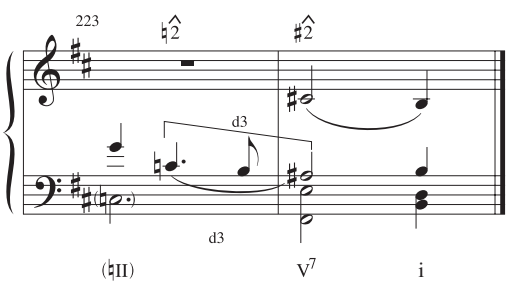
(a)



(b)



(c) from:



A thematic idea first presented on i in minor can be convincingly repeated, a half step higher, on ♭II. In such situations, ♭II is often briefly tonicized, as in Example 29-18 where it is followed by an applied dominant. In this example, the large-scale progression is i (bars 1–4)-♭II (5–8)-V (9ff). Using ♭II makes possible

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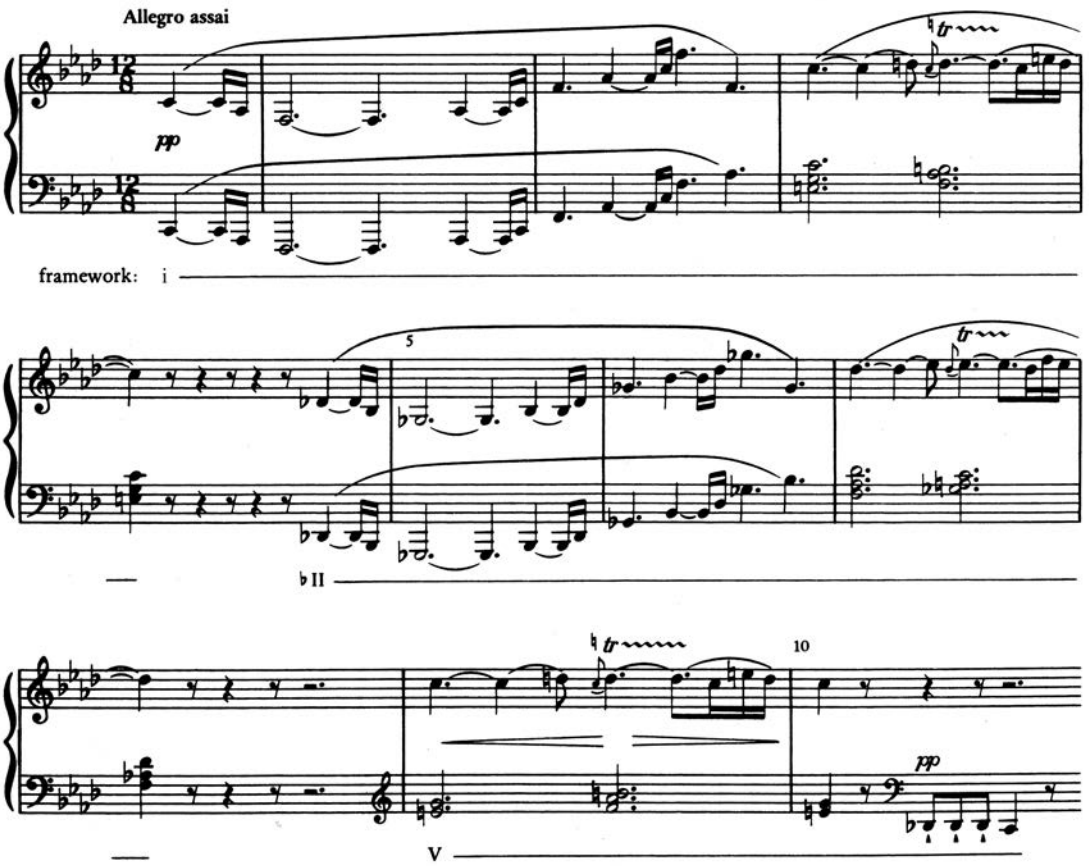
in minor a design you learned in major in Unit 27 (review Example 27-15). The diminished chord on ii° would be impossible here, as you can prove by playing Example 29-18 with G♮'s instead of G♭'s.

29-18 *Beethoven, Piano Sonata, Op. 57, I*

12. ♭II in Figurated Textures. Figuration—especially scalewise figuration—against ♭II can occur in one of two ways. Sometimes it follows the scale of which ♭II is the tonic. Thus, in Example 29-14, the 32nd-note figuration follows the B♭♭-major scale and hints at a very brief tonicization of ♭II. More often, though, composers follow the tonic scale when they figurate ♭II. In Example 29-1, bar 53, for instance, Mozart uses A♮ rather than A♭ in the soprano. Following the tonic scale is often the better option, especially when ♭II moves fairly directly to a cadential V; the figuration can then help to prepare the listener for the subsequent course of the music. But if ♭II is tonicized for a long time (as in Example 29-17), the elements of figuration should be drawn from its own scale.

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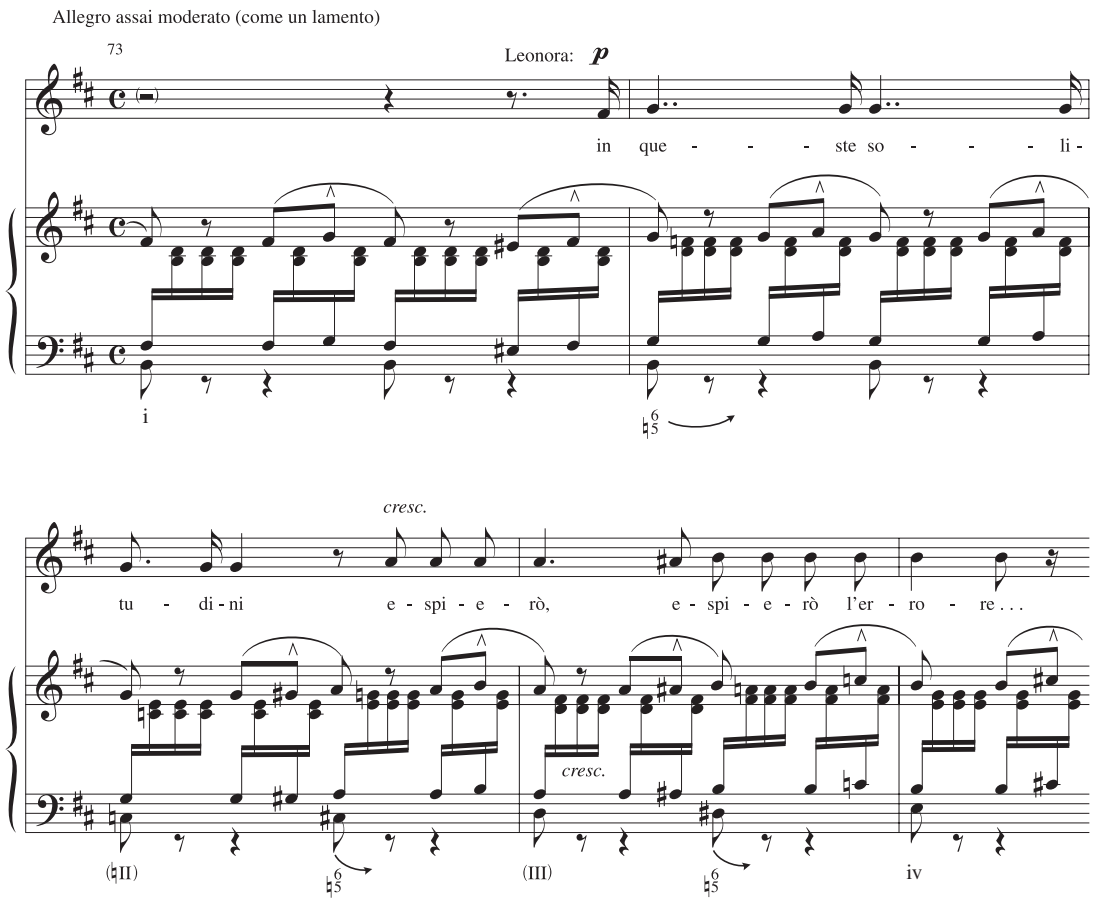
Other Uses of ♭II

13. ♭II in Sequential Passages. ♭II can improve the effect of sequences in minor—particularly those that rise by step from i. (You will perhaps remember from Unit 18 that the diminished triad on ii° makes it difficult to use such sequences in minor.) In Example 29-19, note that Verdi uses a C-major triad instead of diatonic ii° (C♯ diminished); since this passage includes applied chords, an alteration of the supertonic is required—a diminished triad cannot generate an applied V.

29-19 *Verdi, "Son Giunta!"* *(from La Forza del Destino, Act II)*

Allegro assai moderato (come un lamento)
73
Leonora: p
in que - - - ste so - - - li -
i
6/5
cresc.
tu - di - ni e - spi - e - rò, e - spi - e - rò l'er - ro - re . . .
cresc.
(♭II)
6/5
(III)
6/5
iv

translation: In this solitude, I will atone my sin.

14. ♭II as a Pivot Chord. In the modulations that we have dealt with so far, the pivot chord (if there is one) occurs diatonically in both keys. In general, diatonic pivots tend to produce a smooth, unobtrusive change of key. Because ♭II is not a diatonic chord, its use as a pivot can create a feeling of surprise that attracts attention to the key change. The very unexpectedness of such a modulation

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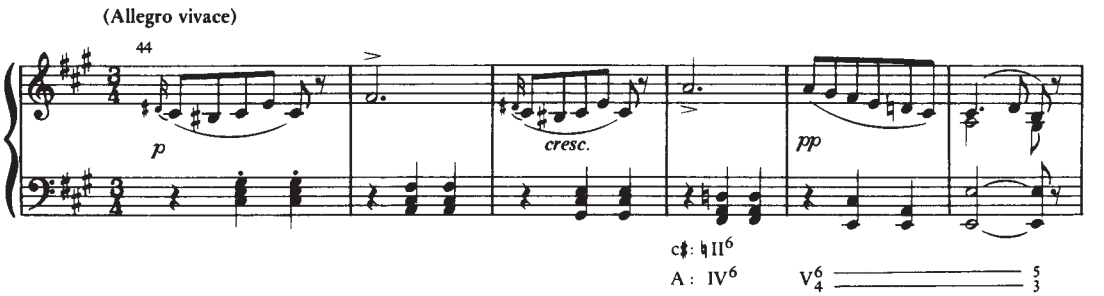
can enhance the expressive character of the passage. In Example 29-20, the return to the tonic key owes much of its unusual charm to the way the D-major $\frac{6}{3}$ chord changes its meaning. This excerpt illustrates what is probably the most frequent use of ♭II as pivot: the Neapolitan 6th of a minor key becomes IV^6 in the major key a 3rd lower.

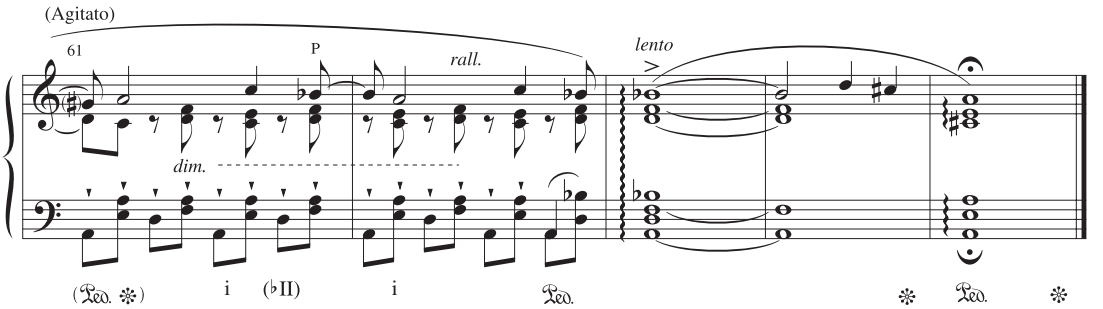
29-20 *Schubert, Piano Sonata, D. 959, III*



The term *chromatic modulation* is often used to describe a key change in which the pivot is a chromatically altered chord in one or both of the keys. Any modulation in which ♭II serves as pivot would be a chromatic one.

15. (♭II) as a Passing or Neighboring Chord. As you have seen, ♭II characteristically leads to and intensifies V within the framework of the harmonic progression I-V-I. In addition, though much less frequently, (♭II) can result from a linear progression in which $\hat{2}$ is lowered for expressive, coloristic, or motivic reasons. Most often this will happen within an expansion of the tonic. An excerpt from Chopin (Example 29-21) shows (♭II) formed by a passing tone and by neighboring tones within the final tonic of the piece. Because it occurs during the coda, the (♭II) functions much like a IV used at a plagal cadence. Note the pedal points—typical for a coda—in the tenor (bars 61–62) and the bass (bars 63–64).

29-21 *Chopin, Etude, Op. 25/4*



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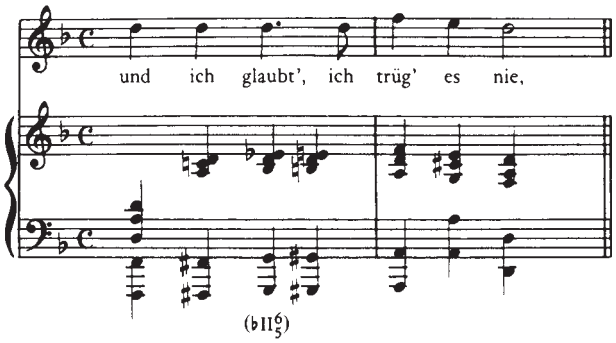
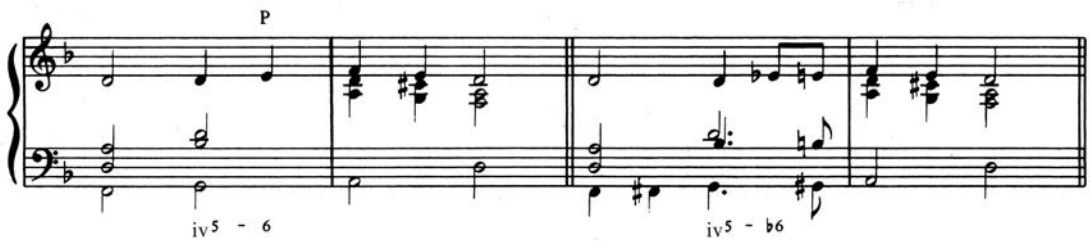
16. *The Apparent Neapolitan $\frac{6}{5}$.* ♭II rarely supports true seventh chords. A progression from a "Neapolitan seventh" to V could produce difficulties in voice leading because both the 7th and $\flat\hat{2}$ tend to have the same goal of motion, $\#\hat{7}$. The majority of "Neapolitan sevenths," therefore, are apparent, rather than real seventh chords. Mostly, as in Example 29-22, they are apparent $\frac{6}{5}$'s and result from a combination of a minor triad on iv and a minor 6th above the bass. This minor 6th is $\flat\hat{2}$; as in our example, it functions as an ascending chromatic passing tone similar, in principle, to the diatonic "added 6ths" that we discussed in Unit 25, Section 14. Examples 29-22b and c show the 5-6 motions from which the apparent $\frac{6}{5}$ is contracted.

29-22

(a) Schumann, "Anfangs wollt'ich fast verzagen" *(from Liederkreis, Op. 24)*



translation: And I believed I would never bear it.

(b) basic plan *(c) with chromatic passing tones*

Chromatic Notation

17. *Why Chromatic Notation Sometimes Varies.* Some of you have probably noticed that similar chromatic elements are sometimes notated differently. For example, a passing tone that rises from $\hat{1}$ to $\hat{2}$ in A minor might be an A♯ in one piece and a B♭ in another; indeed, the two notations might coexist in the same piece. This variability reflects the fact that the structure of tonal music is basically diatonic and that chromatic elements function within a diatonic framework. It does not signify that chromatic notation is entirely arbitrary, that there are no principles or conventions governing its use. In fact, there are a number of such principles,

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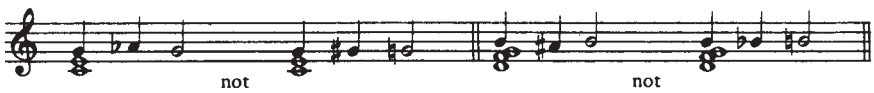
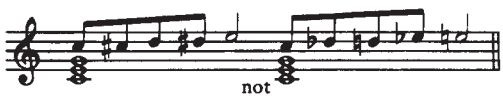
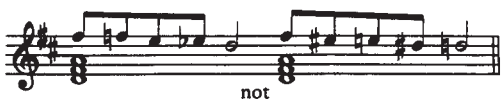
and following one of them might make it necessary to set aside another. This is the main reason for the variations in "spelling" chromatic elements.

18. Notating Chromatic Neighbors. One principle that is almost always followed deals with the notation of chromatically altered neighbors. They are notated as minor 2nds (thus on a *neighboring* part of the staff) and not as augmented unisons (on the same line or space). The preferred notation gives a better visual image and also conveys the "leading-tone" quality often associated with chromatic neighbors. This principle applies to incomplete as well as to complete neighbors. Example 29-23 illustrates.

29-23 *chromatic neighbors*

(a) *(b)*

19. Showing the Direction of Passing Tones. With chromatic passing tones, notate the passing tone and its goal as a minor 2nd, thus, C-C♯-D, not C-D♭-D♮. The first notation gives a better sense of direction than the second, for the resolution of the passing tone coincides with a change to a new line or space on the staff. And just as with the neighboring notes, the preferred notation conveys leading-tone implications. Remember, then, that we use raised notes ascending and lowered ones descending, as Example 29-24 illustrates.

29-24 *chromatic passing tones*

(a)

(b)

20. Avoiding "Remote" Accidentals. Sometimes, however, chromatic passing tones are notated in a way that contradicts their direction. Thus, as in Example 29-25, a chromatic descent from $\hat{5}$ to $\hat{3}$ in C major might be written with an F♯, instead of a G♭. And an ascent rising from $\hat{5}$ to $\hat{8}$ might have a B♭ instead of an A♯. Composers have tended to avoid accidentals that suggest remote keys and to prefer those that are closely connected with the home key. In C major, F♯ and B♭ (which belong to the closely related keys of G and F) fit in more smoothly than G♭ and A♯ (which belong to the remote keys of D♭ and B).

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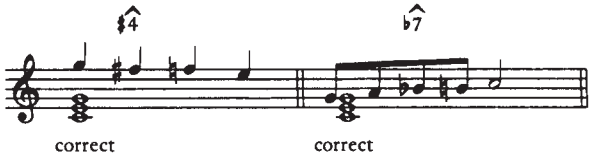
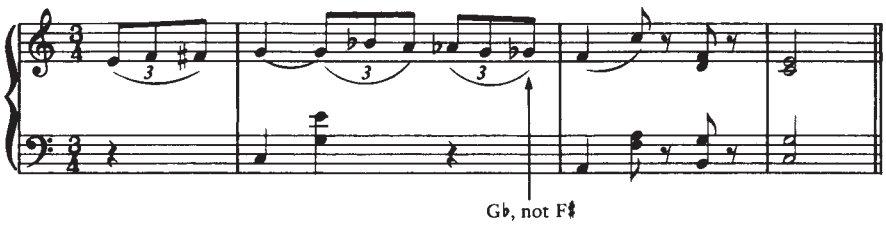
29-25 *avoid remote accidentals*

(a) *(b)*



The chromatics that are preferred because of their close relation to the key are in major ♯4̂ and ♭7̂, and in minor ♯4̂ and ♯3̂. These normally occur as passing tones, both ascending and descending. (Remember that this rule applies only to passing tones, not to chromatically altered neighbors.) The alternative forms should be avoided as passing tones unless using them gives a clearer picture of how the music goes. In Example 29-26, for instance, the G♭ is unquestionably correct. The soprano's F♮ and the F-major chord that supports it are goals; using F♯ (which does not suggest F as a goal) would obscure the tonal direction.

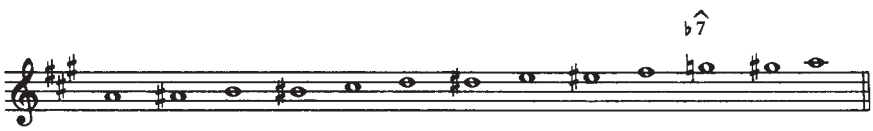
29-26 *showing tonal direction*



21. Notating Chromatic Scales. The information in Sections 19 and 20 forms the basis for notating chromatic scales. The conventional procedure is as follows:

In major: The scale degrees that belong to the key *must* be represented in the chromatic scale, both ascending and descending. In A major, for example, *always* use C♯, F♯, and G♯ rather than D♭, G♭, and A♭. The chromatic steps are raised notes going up the scale and lowered notes descending (Section 19), *except* that ♯4̂ and ♭7̂ are used both ascending and descending (Section 20). Example 29-27 shows the completed scale.

29-27 *chromatic scale in major*

(a) ascending

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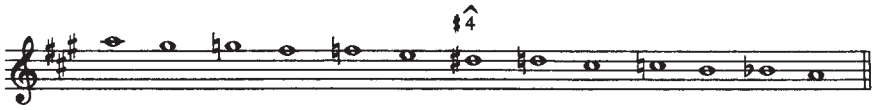
(b) descending

In minor: The diatonic scale degrees will occur both ascending and descending. In addition, the raised forms of $\hat{6}$ and $\hat{7}$ will be used in both directions. $\sharp\hat{3}$ and $\sharp\hat{4}$ will also occur in both directions (Section 20). This means that a chromatic scale in minor is the same up and down *except* that $\sharp\hat{1}$ will occur ascending and $\flat\hat{2}$ descending (Example 29-28).

29-28 *chromatic scale in minor*

(a) ascending

(b) descending

And even this lone distinction sometimes disappears. Composers (Mozart, for example) will sometimes use $\flat\hat{2}$ in the ascending scale; as the "Neapolitan" note, $\flat\hat{2}$ bears a sufficiently close connection to the key to count as a preferred chromatic.

POINTS FOR REVIEW

1. ♭II (Phrygian II) in minor is a major triad built on lowered $\hat{2}$.
2. ♭II typically occurs in $\frac{6}{3}$ position; it is generally called the Neapolitan 6th. It functions as a chromatic intermediate chord, and its usual goal is $V^{(7)}$, mostly, though not always, at a cadence. $\flat II^6$ and $V^{(7)}$ may be connected by a passing applied chord built on $\sharp\hat{4}$; a cadential $\frac{6}{4}$ may expand the V.
3. $\flat\hat{2}$ tends to move down. If $\flat II^6$ goes directly to $V^{(7)}$, a melodic diminished 3rd ($\flat\hat{2}$-$\sharp\hat{7}$) will normally result; the melodic succession $\flat\hat{2}$-$\natural\hat{2}$ is best avoided, especially in the soprano. The melodic diminished 3rd is often filled in with a passing tone, thus: $\flat\hat{2}$-$\hat{1}$-$\sharp\hat{7}$.
4. The best doubling in $\flat II^6$ is the bass ($\hat{4}$); if $\flat\hat{2}$ is in the soprano, an inner voice (usually the tenor) can double it. The soprano will move to the leading tone, and the inner voice can proceed directly to $\natural\hat{2}$.
5. In minor, any chord that leads convincingly to ii^{o6} can also lead to $\flat II^6$; a series of parallel $\frac{6}{3}$'s can culminate in $\flat II^6$.
6. In noncadential situations, $\flat II^6$ can lead to inversions of $V^{(7)}$ and to various positions of vii^{o7}. Typical possibilities are V^4_2 and vii^{o4}_3.

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7. ♭II$^{5}_{3}$ occurs much less often than ♭II^{6}, largely because of the diminished 5th or augmented 4th in the bass when moving to V. Sometimes ♭II$^{5}_{3}$ moves to V^{6}, V$^{6}_{5}$, or vii°^{7} with a bass motion by diminished 3rd, frequently filled in by a passing tone.
8. ♭II$^{(6)}$ sometimes occurs in major, though it is less frequent than in minor and more difficult to use convincingly. It is most easily approached through ♭VI and through I^{6}. For convenience in reading, ♭II is sometimes notated enharmonically, especially in keys with four or more flats.
9. The $^{6}_{4}$ position is the least frequent; sometimes it arises out of a bass arpeggiation within ♭II, sometimes the bass acts as upper neighbor to V.
10. ♭II may be tonicized.
11. ♭II may be a pivot chord in a chromatic modulation; a typical use is ♭II^{6} of a minor key reinterpreted as IV^{6} of the new (major) key.
12. ♭II makes possible a convincing sequential progression rising by step from i in minor.
13. ♭II may function as a passing or neighboring chord—often within an expansion of the tonic, and sometimes over a tonic pedal at the end of a piece.
14. Chromatic notation:
    a. Notate chromatic neighbor as minor 2nd.
    b. Notate passing tone and goal as minor 2nd.
    c. Avoid "remote" accidentals. Preferred chromatics in major are ♯$\hat{4}$ and ♭$\hat{7}$; in minor, ♯$\hat{4}$ and ♯$\hat{3}$.
    d. Sometimes (minor scale ascending) ♭$\hat{2}$ is used instead of ♯$\hat{1}$.

EXERCISES

1. Preliminaries. Using a different key for each, write brief phrases or progressions that demonstrate the techniques listed below. In some of the progressions, ♭II^{6} should follow a chord other than i or i^{6}. Use minor except where major is indicated.
    a. ♭II^{6}-V.
    b. ♭II^{6}-V$^{4}_{2}$.
    c. ♭II^{6}-vii°$^{4}_{3}$.
    d. ♭II^{6}–applied chord on ♯$\hat{4}$–cadential $^{6}_{4}$.
    e. ♭II^{6} preceded by parallel $^{6}_{3}$ chords.
    f. ♭II$^{5}_{3}$-V$^{6}_{5}$ or vii°^{7}.
    g. ♭VI-♭II^{6} in major.
    h. ♭II briefly tonicized.
    i. ♭II in a sequence rising from i.
    j. Modulation from G minor to E♭ major using ♭II^{6} of G minor as a pivot.
2. More preliminaries. Write one-octave chromatic scales: B major, G♭ major, D♯ minor, F minor.

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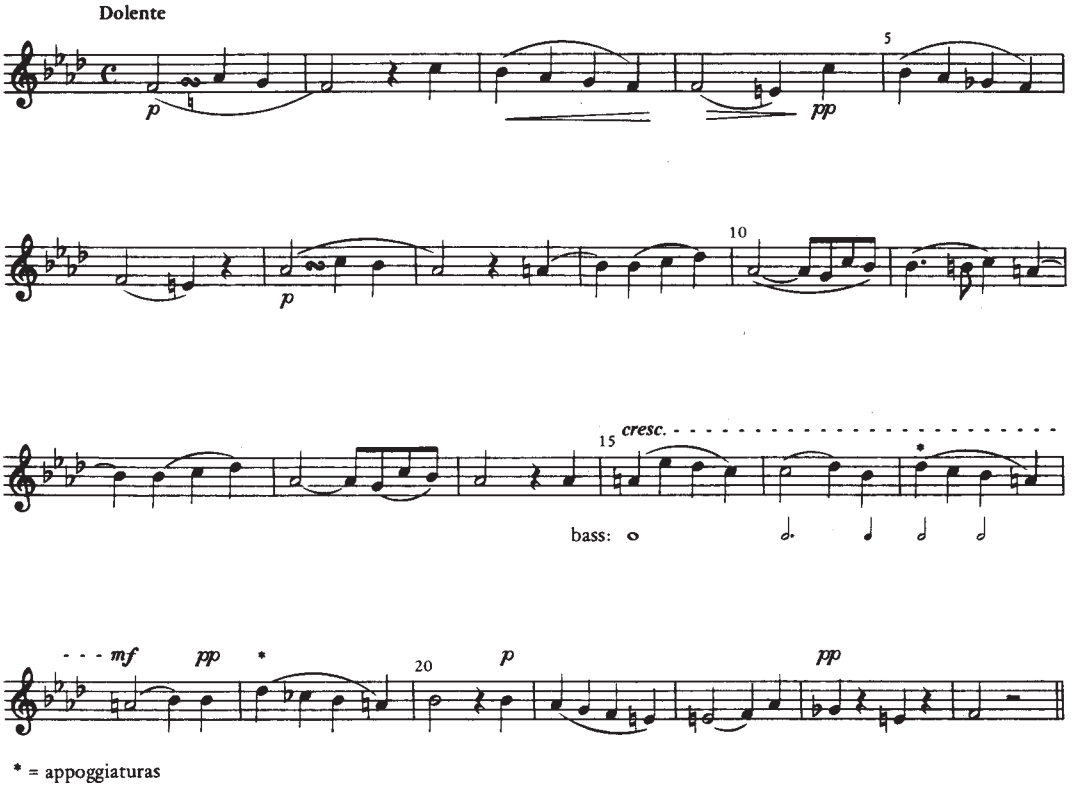
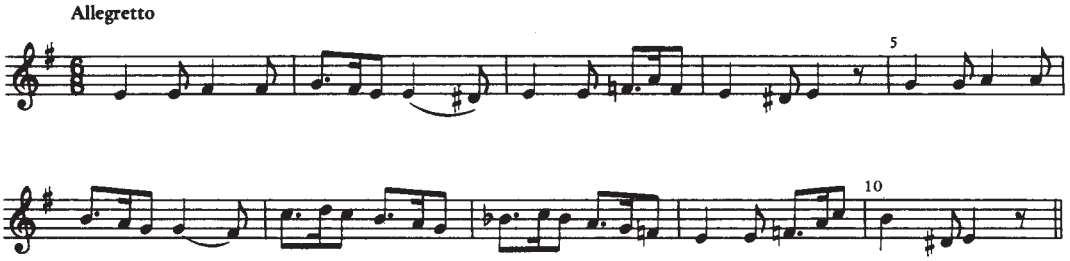
3. Melody. Use ♭II^6 wherever practical.

* = appoggiaturas

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

4. Melody. Don't harmonize the sixteenth notes. What chord is tonicized in measures 5–7?

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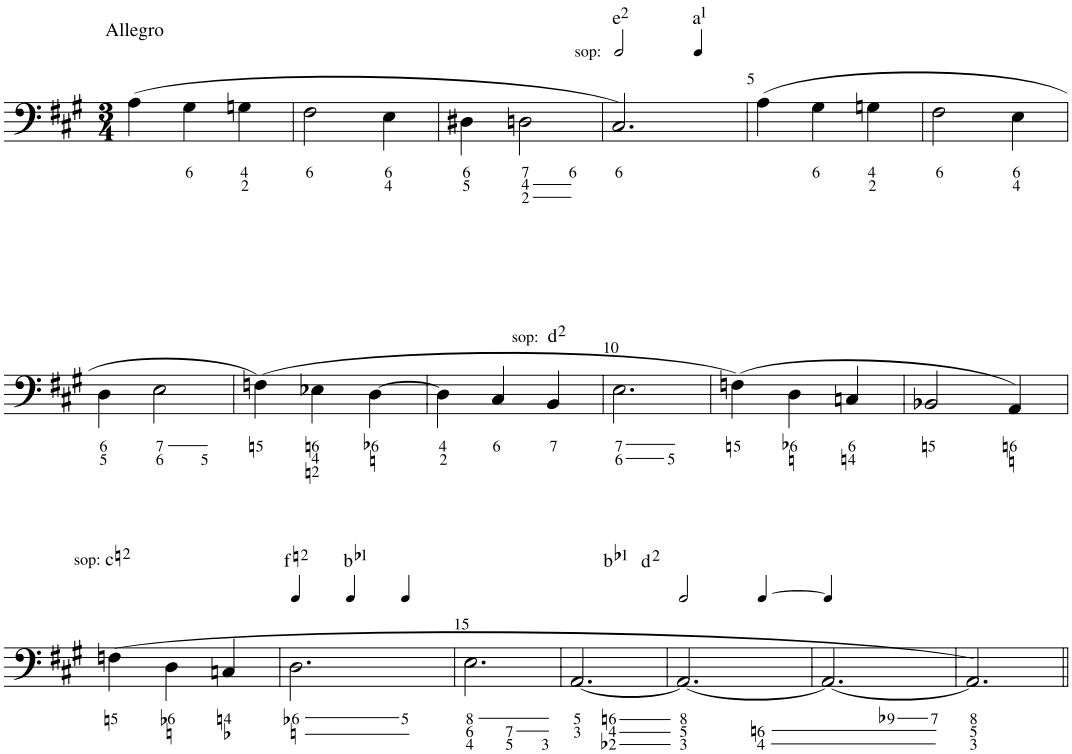
5. Figured bass.



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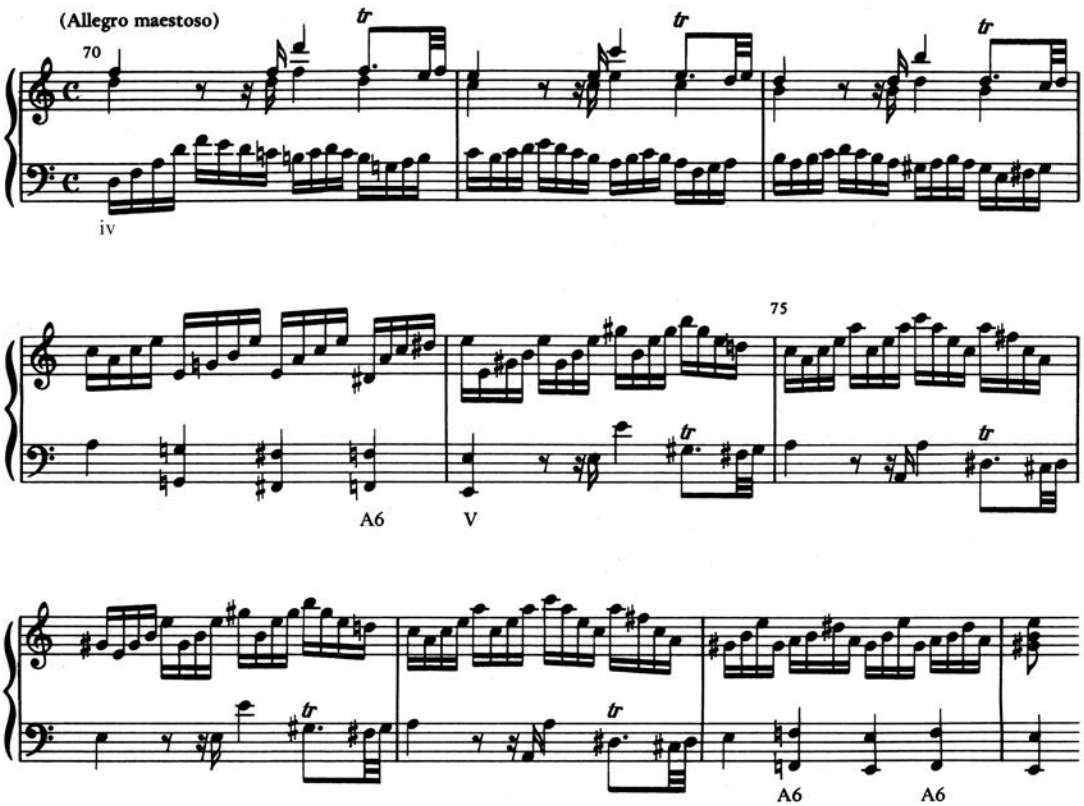
UNIT

30 Augmented Sixth Chords

30-1 *Mozart, Piano Sonata, K. 310, I*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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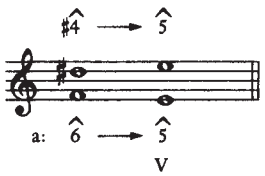
A Chromatic Preparation for V

1. ***Leading-Tone Chromaticism.*** The interval of the augmented 6th characterizes an important group of chromatic chords called, naturally enough, *augmented 6th chords*. They are featured prominently in Example 30-1, an excerpt from the development section of a sonata movement by Mozart. This part of the development contains the climactic dominant that forms the goal of the entire section. The first augmented 6th (bar 73) ushers in this culminating dominant; the later ones (bar 78) intensify the dominant immediately before the onset of tonic harmony at the beginning of the recapitulation.

In the Mozart, the augmented 6th chords contain F in the bass and D♯ (together with other tones) in the right-hand part. The augmented 6th, F-D♯, resolves by opening out into an octave on E; this E forms part of a V chord (Example 30-2). To generalize, the bass of the augmented 6th chord is a half step above $\hat{5}$ ($\hat{6}$ in minor or ♭$\hat{6}$ in major), one of the upper voices is a half step below $\hat{5}$, and the resolution is to an octave on $\hat{5}$ as part of dominant harmony.

30-2 *resolution of augmented 6th*



The presence of an augmented 6th chord is a sure indication of chromaticism, for the augmented 6th cannot occur diatonically; no diatonic scale contains, for example, both F♮ and D♯. The resolution of an augmented 6th to an octave sounds like nothing else in tonal music. With its half-step progressions by contrary motion, it intensifies the following chord in a unique way. As a consequence, augmented 6th chords often occur just before important structural points; composers can use them to signal the beginning or end of a phase in the tonal movement or the form.

Like applied V and VII chords, augmented 6ths exemplify a fundamental type of chromaticism: *leading-tone chromaticism*. In the Mozart Sonata, for example, the D♯'s—the chromatically altered tones—are leading tones to E.* However, the augmented 6ths differ from applied chords in at least one crucial respect. The temporary leading tone, taken by itself, is an agent of tonicization, but the chord as a whole does not belong to the "key" of the chord to which it resolves. In the Mozart, D♯ sounds like $\hat{7}$ of E, but F♮, the bass tone, does *not* belong to the key of E. Unless there is strong evidence to the contrary, therefore, the resolution of an augmented 6th will not sound like a tonic—one reason why augmented 6ths function so well as preparations for important dominant chords.

*The sonata begins with a grace-note figure D#-E. The augmented 6ths and their resolutions embody this figure; they recall the opening of the movement to the listener's mind and help to prepare the recapitulation motivically as well as harmonically.

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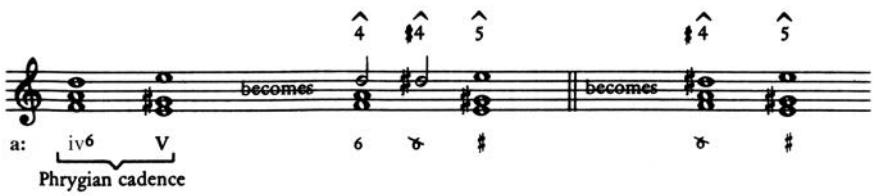
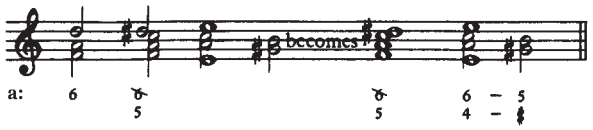
2. *Contrapuntal Origin.* As we know (Unit 26), ♯$\hat{4}$ is one of the most frequently used chromatic tones, often functioning as a passing tone, as in a bass line rising from IV to V. As Example 30-3a indicates, augmented 6th chords originate in a similar use of ♯$\hat{4}$ as a chromatic passing tone, but in an upper voice; the chordal background is the familiar Phrygian cadence in minor. If ♮$\hat{4}$ is omitted, through the technique of contraction, the interval of the augmented 6th will occupy the full duration of the chord (Example 30-3b). This certainly gives greater emphasis to the augmented 6th but does not change its essentially passing function.

30-3 *origin of the augmented 6th chord*

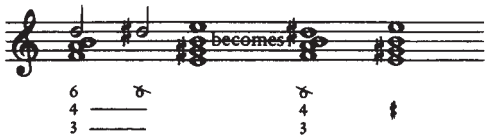
(a) *(b)*

The augmented 6th chord shown in Example 30-3 is the simplest type, a $\frac{6}{3}$ chord. Adding a 5th, as in Example 30-4a, produces an augmented $\frac{6}{5}$. Starting with ii$^{ø}\frac{4}{3}$—a chord very closely related to iv^{6}—gives us an augmented $\frac{4}{3}$ (Example 30-4b).

30-4 *augmented $\frac{6}{5}$ and $\frac{4}{3}$ chords*

(a)



(b)



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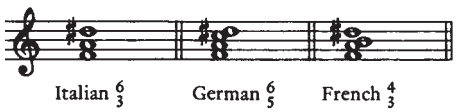
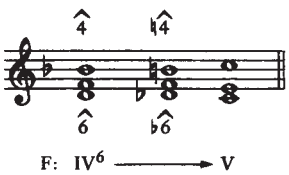
3. *Geographical Names.* Musicians frequently refer to the augmented $\frac{6}{3}$ as the "Italian 6th," to the augmented $\frac{6}{5}$ as the "German 6th" (or "German $\frac{6}{5}$"), and to the augmented $\frac{4}{3}$ as the "French 6th" (or "French $\frac{4}{3}$"). The geography is meaningless, but the names are convenient and are in very wide use; learn them. Example 30-5 shows the three important types of augmented 6th chord.

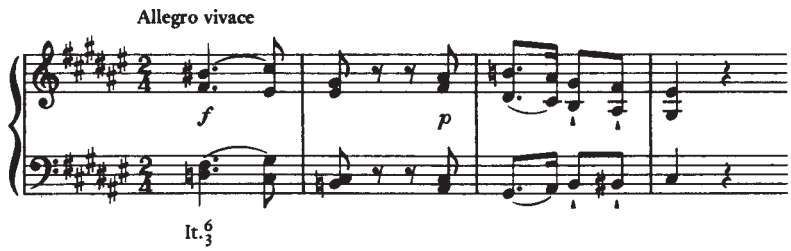
30-5 *geographical names*

Introducing ♭$\hat{6}$ through mixture makes it possible to use augmented 6th chords in major (Example 30-6).

30-6 *augmented 6th in major*



4. *The Italian 6th.* Example 30-7 illustrates the solution for the main problem posed by this simplest of the augmented 6ths: what to double in four-part texture. Beethoven doubles the 3rd (the tonic note)—the only good strategy, for any other doubling will lead to a poor sonority, awkward melodic lines, or parallel octaves.

30-7 *Beethoven, Piano Sonata, Op. 78, II*



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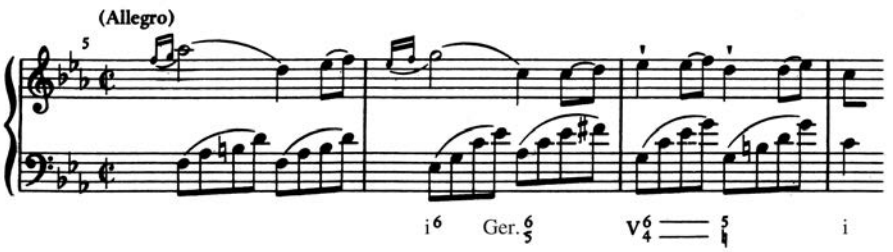
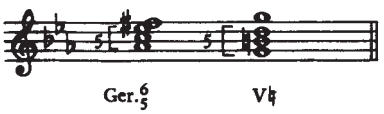
The Italian 6th frequently appears as a three-note chord without doubling, either in a three-part texture or in a free setting where the number of parts changes. It is usually the best of the augmented 6ths for places that need a thin, transparent sonority.

5. The German $\frac{6}{5}$. By contrast, the German 6th—probably the most frequently used augmented 6th chord—has a fuller sound and is appropriate to thicker, more complex textures. Unlike the Italian 6th, which usually moves directly to V, the German 6th typically moves to a V expanded by a cadential $\frac{6}{4}$. In minor, the German 6th and the $\frac{6}{4}$ share two common tones (Example 30-8); in major, there is a common tone and a motion by chromatic half step (see Example 30-13). The progression to the $\frac{6}{4}$ is smooth and convincing in either mode.

30-8 *Beethoven, Piano Sonata, Op. 13, III*

Moving directly to V (without a $\frac{6}{4}$) is also possible and, in fact, is rather frequent. But there is a problem. In a setting without figuration and with normal, stepwise voice leading, parallel 5ths are inevitable (Example 30-9).

30-9 *parallel 5ths*



Composers have developed various strategies for dealing with these 5ths. But since motion to a cadential $\frac{6}{4}$ (which breaks up the 5ths) is by far the most frequent possibility, we shall reserve discussion of these more specialized techniques for a later section.

6. The French $\frac{4}{3}$. Unlike the other augmented 6th chords, the French 6th contains two dissonances above the bass: an augmented 6th and an augmented 4th. There are also dissonances among the upper voices: another augmented 4th (or diminished 5th) and a major 2nd (or minor 7th). This high concentration of

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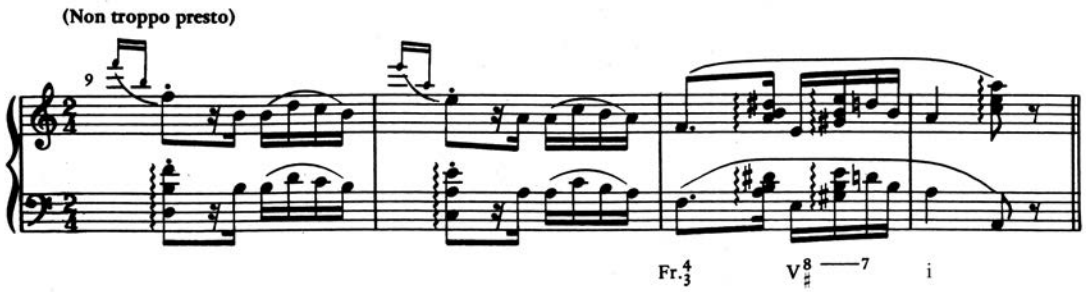
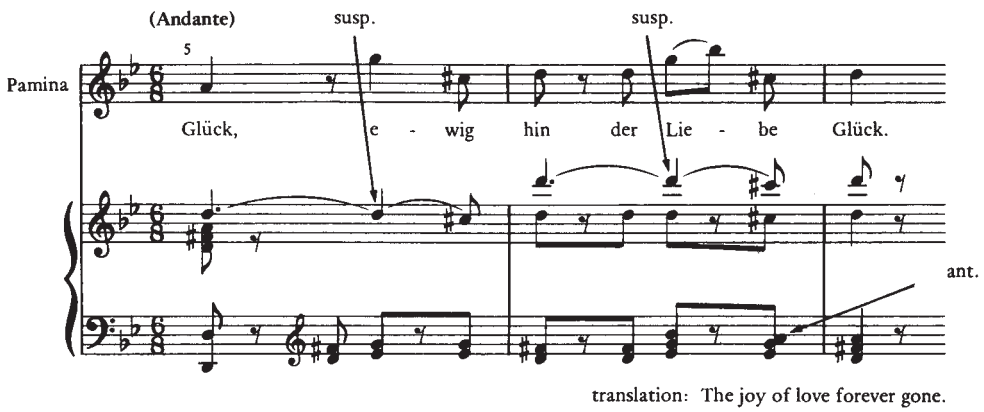
dissonances gives the French 6th a sharp, pungent sonority. When it is emphasized by rhythm, texture, or accentuation, the effect can be rather biting, as in Example 30-10.

30-10 *Brahms, Variations on a Theme by Paganini, Op. 35, Theme*

Moving to V, either plain or embellished by a cadential $\frac{6}{4}$, offers no difficulties in voice leading. The presence of $\hat{2}$ as a common tone removes the threat of parallels. The French 6th is a very effective neighboring chord of V as in Example 30-1, bar 78.

Sometimes an anticipation of $\hat{2}$ over a German 6th can produce the momentary impression of a French 6th (Example 30-11, bar 6). This is a very frequent way of avoiding 5ths with the German 6th.

30-11 *Mozart, "Ach ich fühl's"* *(from The Magic Flute, K. 620)*



7. The Augmented 6th Chord with Doubly Augmented 4th (German $\frac{4}{3}$). Sometimes one encounters an augmented 6th chord that sounds exactly like a German $\frac{6}{5}$ but is notated as a $\frac{4}{3}$ with ♯$\hat{2}$ in place of ♭$\hat{3}$ (in C major, D♯ instead of E♭). This

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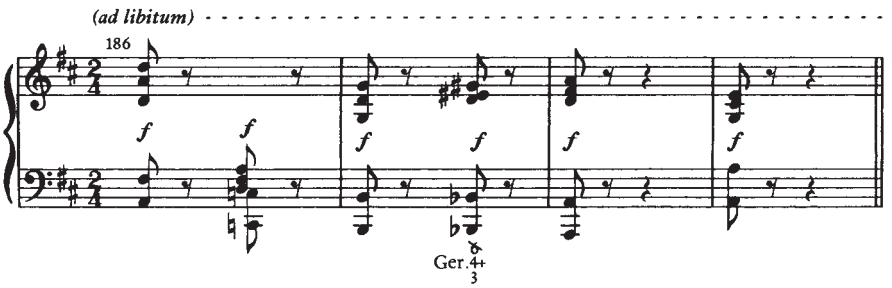
variation in spelling produces the curious interval of a doubly augmented 4th above the bass (in C major, A♭—D♯). There is only one common situation that might call for using this notation: moving to a *major* $\frac{6}{4}$ chord. Especially in the middle and late nineteenth century, composers sometimes liked to emphasize $\hat{3}$ as a goal by using $\sharp\hat{2}$, its leading tone. In Example 30-12, the progression $\sharp\hat{2}$-$\hat{3}$ is in an inner voice.

30-12 *Schumann, Novelette, Op. 21/4*



In most cases, the regular German 6th serves just as well, for the basic progression is to the dominant, not the $\frac{6}{4}$. You needn't try to learn the "chord of the doubly augmented 4th" as a separate entity but merely as a notational variant of the German 6th.

Approaching Augmented Sixth Chords

8. *Approaching from IV and ii.* Augmented 6th chords occur in many different contexts and in connection with many different types of bass and soprano lines. Occasionally, they enter without preparation at the very beginning of a piece or movement, as in Example 30-7. Starting with an augmented 6th is not very common and probably does not happen at all in music before Beethoven. *The most frequent immediate preparation for augmented 6th chords of all types is some form of IV*; in such cases, the augmented sixths function as *chromatic intermediate* chords, altered subdominants that have become active in the direction of V. Frequently, the point of departure is iv^6 or IV^6, minor or major, and $\sharp\hat{4}$ is a simple chromatic passing tone, just as in Examples 30-3 and 30-4. Example 30-13 illustrates. Note that in major, the bass of IV^6 is inflected to produce $\flat\hat{6}$. This technique of expansion—a diatonic IV followed by its chromatically related augmented 6th—further intensifies the motion toward V.

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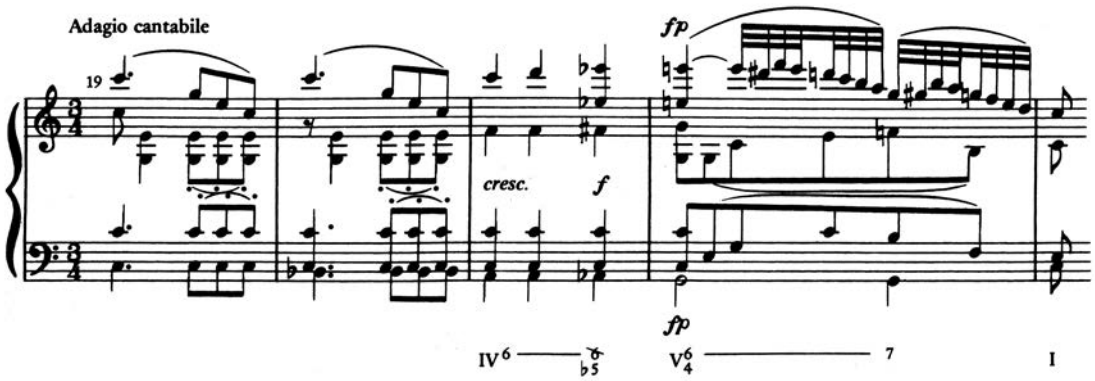
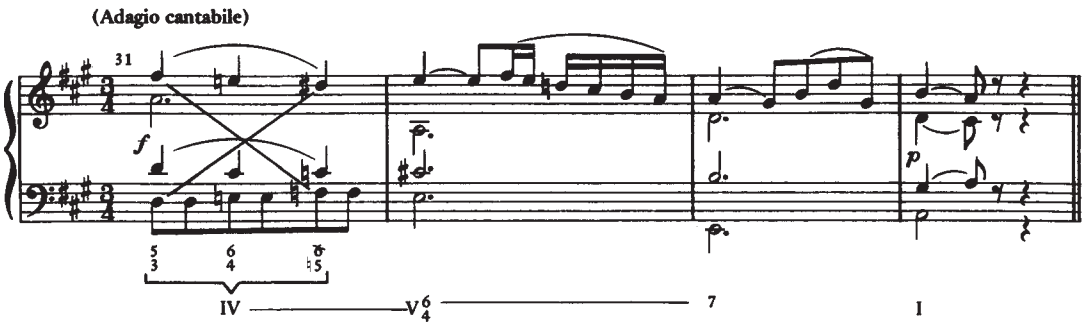
30-13 *Beethoven, String Quartet, Op. 18/2, II*



Augmented 6ths, like applied V and VII of V, often result from a *chromaticized voice exchange* from IV and sometimes ii^{6} or ii$^{6}_{5}$ (Example 30-14). ♯$\hat{4}$ still represents a passing tone, but one shifted into a new voice and register. Frequently, the voice exchange is filled in by a passing $^{6}_{4}$. Notice in the Haydn that the German 6th is an altered form of the subdominant, its diatonic preparation (a general characteristic of augmented 6th chords). D becomes D♯, F♯ becomes F♯, the other D moves to C♯, and the A remains as a common tone. One may therefore consider the augmented 6th as the *boundary* of a subdominant area initiated by the root-position diatonic IV chord. Sometimes, as we shall see, this progression can be expanded to unify broad musical spans.

30-14 *Haydn, String Quartet, Op. 64/5 ("Lark"), II*



Sometimes ii forms the diatonic preparation for an augmented 6th, so that the harmonic framework is ii-V, the ii intensified chromatically by the augmented 6th (Example 30-15). According to an old harmonic theory, all normal augmented 6ths have $\hat{2}$ as their root. As a generalization, this theory is farfetched and unconvincing: Why should we hear the "root" of A♭-C-E♭-F♯ as a D when that note virtually never sounds together with the chord it supposedly generates? But in a context where the last stable harmony before the augmented 6th is a ii (as in Example 30-15), it does make sense to hear that ii as the diatonic harmony that gives rise to the augmented 6th. In that case, $\hat{2}$ is indeed the root of the chord, but by a kind of "remote control."

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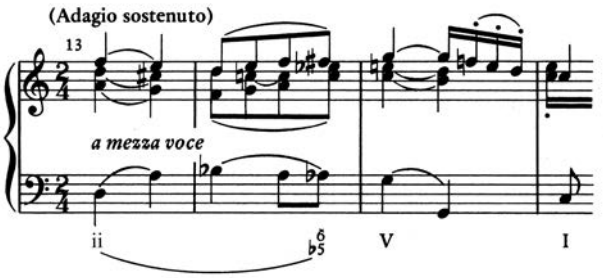
In general, the chromaticism of the augmented 6ths gives them an intensely linear character and weakens the impression that they are vertical structures generated from a root. The impression of root will then arise out of the larger context rather than within the chord itself. If the augmented 6th follows a strong IV, $\hat{4}$ will carry over as root (altered, of course, to $\sharp\hat{4}$); if the augmented 6th follows ii, then it will continue supertonic harmony.

30-15 *Haydn, String Quartet, Op. 76/1, II*

9. *Approaching from Altered IV and ii.* Applied dominant and leading-tone chords to V are chromatically altered forms of IV and ii. Augmented 6ths, therefore, may follow these applied chords and extend the intermediate area of a passage. In one sense, all these chords form a related group: they share the same diatonic origin and the presence of $\sharp\hat{4}$ as a chromatically altered tone. Nevertheless, the presence of $\flat\hat{6}$ and the interval of the augmented 6th give the augmented 6th chords a distinct individual character as well as imparting a particular intensity to the resolution to V.

Frequently, augmented 6th chords originate in a chord applied to V with $\flat\hat{6}$ introduced as a passing tone in the bass. In Example 26-11b, we examined how Chopin introduces V^7 with an applied V^4_3. At a later point in the same Etude (Example 30-16a), he leads the same V^4_3 of V through a French augmented 6th before moving to V^6_4, which marks the climax of the section (a $vii^{\circ 6}_5$ of V is also a possibility). An augmented 6th may also form the conclusion of a chromaticized voice exchange, as illustrated in Example 30-16b (the applied chord will be V^6_5 or $vii^{\circ 7}$ of V). Note that the German $^6_5$ and $vii^{\circ 7}$ of V share three common tones (in Example 30-16b, F♯, C, and E♭). The remaining tones—A in the diminished 7th and A♭ in the augmented 6th—are variants of the same scale step.

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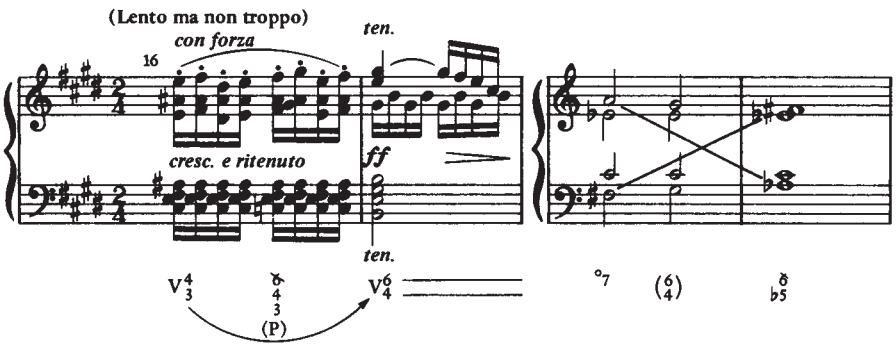
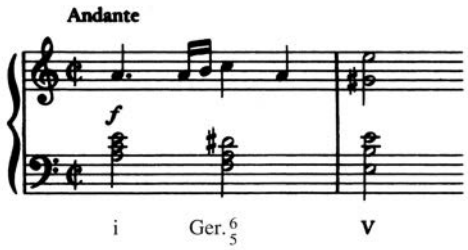
30-16

(a) Chopin, Etude, Op. 10/3 (b)



10. *Approaching from i.* Often—especially in minor—augmented 6ths follow the tonic without any intervening chords (Example 30-17). Another possibility is a leap from i^6, as in Example 30-8.

30-17 Mozart, "Crudel! Perchè finora" (from *The Marriage of Figaro*, K. 492)

In the quotation from *Figaro,* the bass skips from $\hat{1}$ down to $\hat{6}$. Using a passing V^6 makes possible a stepwise bass (compare Examples 19-11 and 26-11a). Especially characteristic is the completely chromatic bass shown in Example 30-18. This *descending chromatic bass from i to V* often occurs in minor-mode music of a programmatic character as a symbol for death, suffering, or some other kind of tragic destiny: It is often called the "lament bass." The opening of the *Don Giovanni* overture is a classic example.

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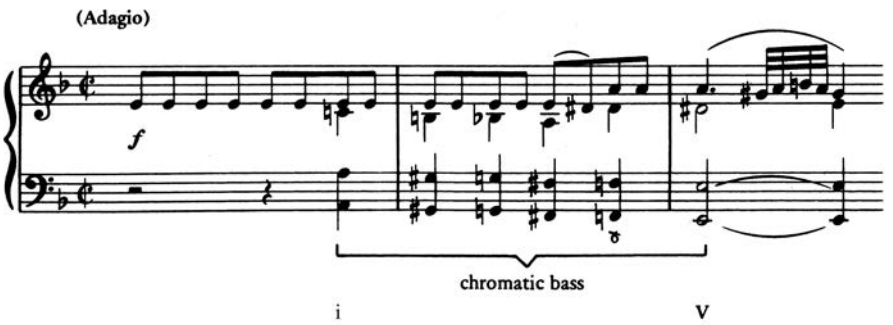
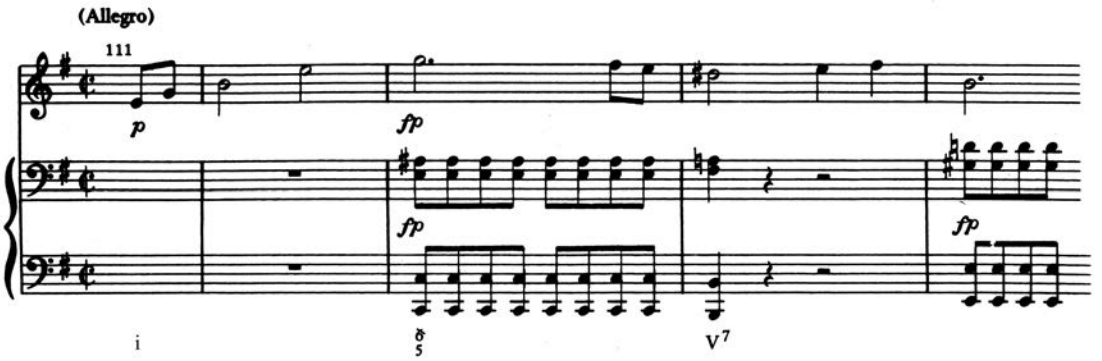
30-18 *Mozart, Fantasia in D minor, K. 397*



Sometimes an augmented 6th chord that comes immediately from IV^6 has a tonic chord as a prior point of origin, as in Example 30-13, where the bass line as a whole fills in, partly chromatically, the 4th from I down to V.

Since all augmented 6th chords contain $\hat{1}$ and the German 6th contains $\hat{3}$ as well, augmented 6ths can be used to harmonize part of a tonic arpeggio in the soprano. In Example 30-19, the German 6th arrives with striking effect at the culmination of the broken chord.

30-19 *Mozart, Violin Sonata, K. 304*

Another important possibility for the soprano is a rising line, wholly or partly chromatic, that leads to $\hat{5}$; the augmented 6th, of course, would harmonize $\sharp\hat{4}$. Typically, the soprano rises chromatically from $\hat{3}$, supported in contrary motion by a partly chromatic descending bass, as in Example 30-20a. An unforgettable expansion of this procedure occurs in the tremendous passage where Mozart depicts the dead rising from their graves to the seat of judgment (Example 30-20b). The soprano rises a full 12th, supported at first

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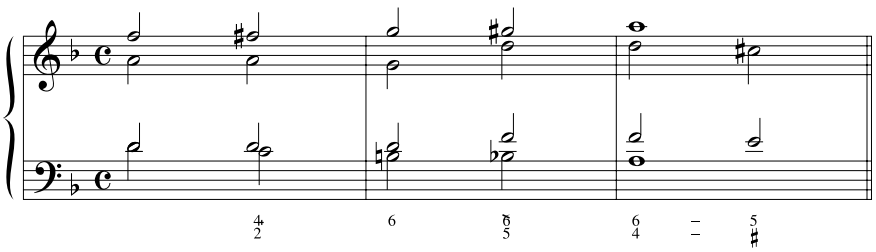
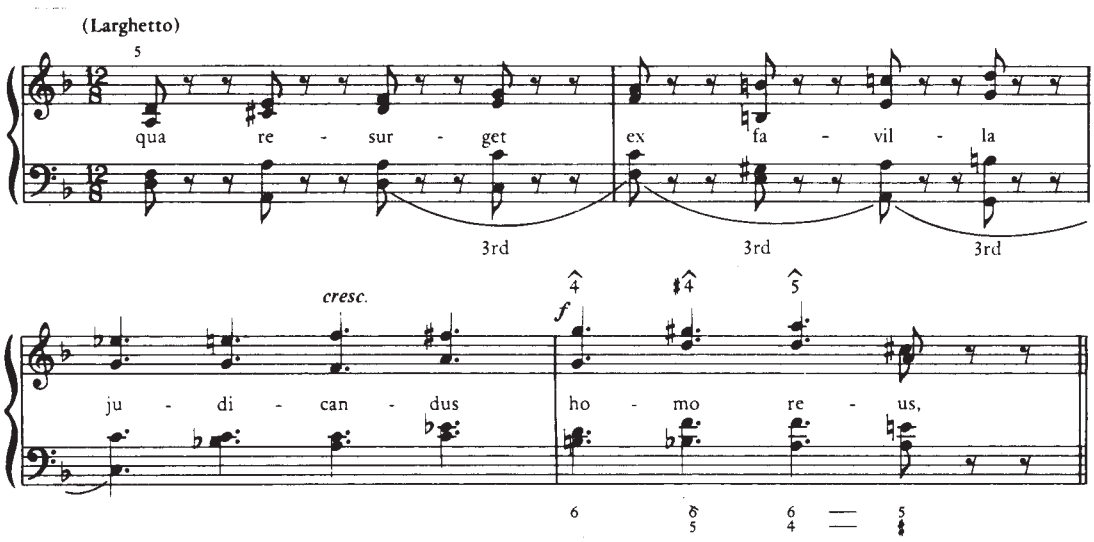
by a sequence in ascending 3rds. The C-minor chord that forms the goal of the sequence is an example of secondary mixture (see Unit 31); after the C-minor chord, the soprano line is wholly chromatic.

30-20

(a) chromatic soprano rising from $\hat{3}$



(b) Mozart, Lacrymosa (voice parts only) *(from Requiem, K. 626)*



translation: [Most sorrowful of days,] when the world rises from the ashes, full of sin and ripe for judgment.

11. *Approaching from VI.* Another frequent point of departure for augmented 6ths in minor is VI (in major, ♭VI). Often, as in Example 30-21, a VI altered through simple mixture (♭VI) that has been extended through tonicization returns to the home dominant and, eventually, the tonic, through an augmented 6th. All that is needed is to add ♯$\hat{4}$ to VI (♭VI); often, as in our example (bars 33–34), the doubled root of VI moves down a diminished 3rd to the augmented 6th.

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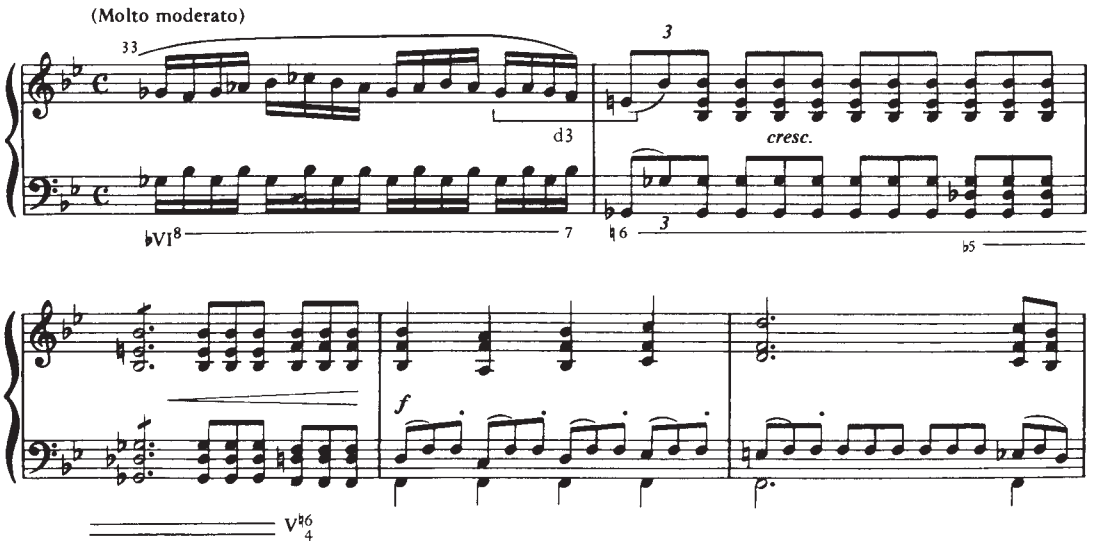
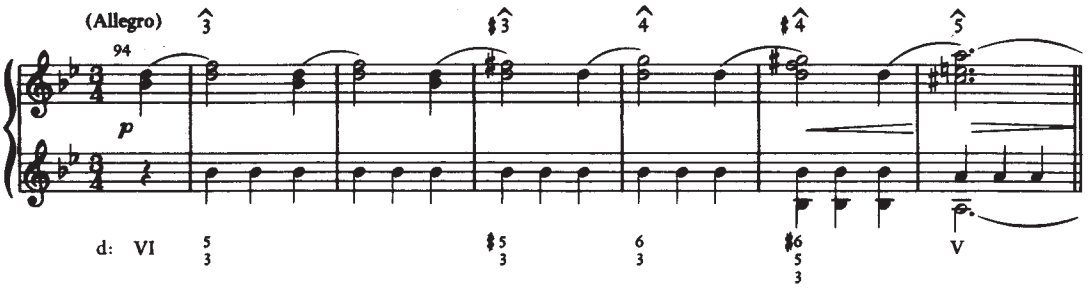
30-21 *Schubert, Piano Sonata, D. 960, I*

Another possibility for the soprano is the rising chromatic line discussed in Section 10. The chromatic line will produce the intervals of a perfect 5th, augmented 5th, major 6th, and finally, augmented 6th. (The augmented triad produced by the passing augmented 5th will be discussed in Unit 31.) Example 30-22 illustrates.

30-22 *Haydn, Symphony No. 104, III*



Augmented 6ths frequently follow deceptive cadences in minor to VI (in major, to ♭VI), because they form a convincing transition to V.

12. *Augmented 6ths as Neighbors of V.* Often, augmented 6th chords originate in the use of ♭$\hat{6}$ as upper neighbor to V in the bass, as in Example 30-1, bar 78, or

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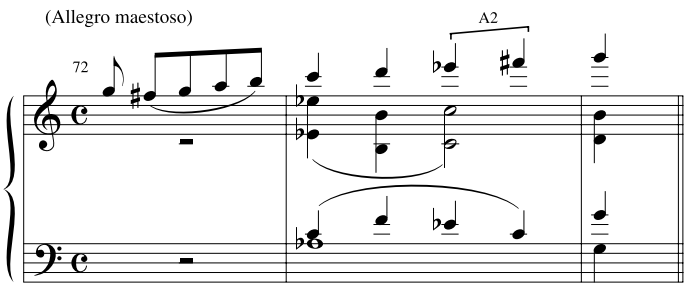
to the cadential $\frac{6}{4}$ before it resolves into V. Because it contains $\hat{2}$ as a common tone with V, the French $\frac{4}{3}$ is particularly well suited to this function, but the Italian and German 6ths are also possible (see Example 30-11).

Details of Voice Leading

13. *Melodic Augmented 2nds.* Melodic augmented 2nds frequently appear above an augmented 6th chord, or in the progression from another chord (usually i in minor) to an augmented 6th. In free textures, such augmented 2nds can be most beautiful and appropriate (Example 30-23), as the tones of the augmented 2nd form part of the German augmented sixth chord. Compare the similar situation with respect to diminished 7th chords as discussed in Unit 23, Section 11.

30-23 *Mozart, Piano Concerto, K. 467, I*



14. *The German $\frac{6}{5}$ and Parallel 5ths.* As we know (Section 5), direct progression from a German $\frac{6}{5}$ to a dominant produces the threat of parallel 5ths. Such 5ths occur frequently in figurated keyboard textures that contain arpeggiated instead of block chords. Look again at Example 30-1, bars 73–74. Had the passage been written in block chords, the 5ths would have been very evident. The broken-chord setting, with the 5ths in weak rhythmic positions, separates the tones enough to offset the impression of parallels.

Another frequent possibility is to skip from the 5th to another tone of the German 6th before moving on to V. Such chordal skips can occur in any of the upper voices and are particularly effective in the soprano (Example 30-17).

Example 30-24 shows another possibility: a leap up from the 5th of the German $\frac{6}{5}$ to the root of V.

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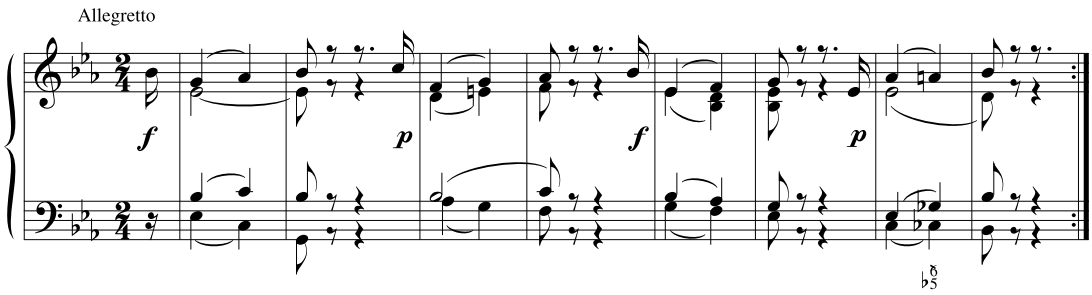
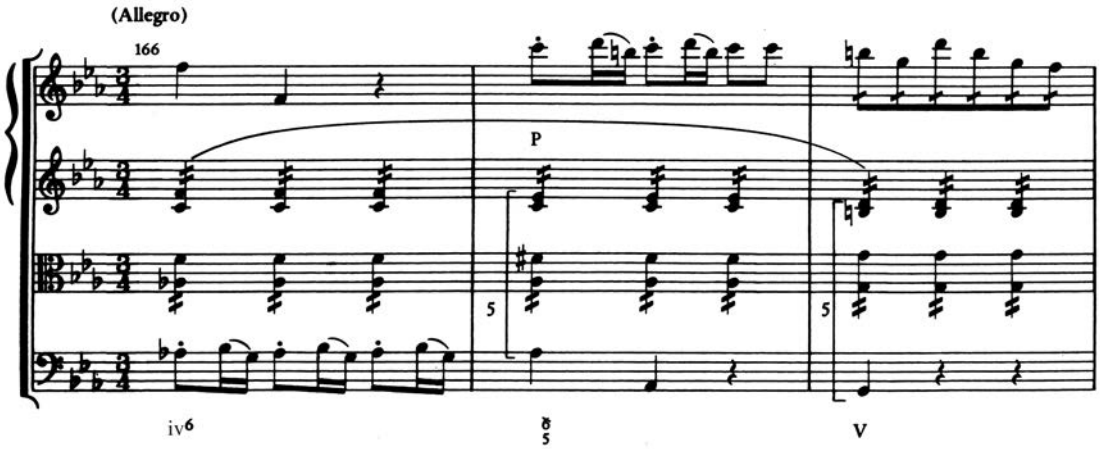
30-24 *Haydn, String Quartet, Op. 76/6, I*



Occasionally composers will simply write consecutive 5ths, though usually not between outer voices (Example 30-25). In trying to evaluate such cases, bear in mind that the 5th of the German $\frac{6}{5}$ represents a passing tone. In a deep sense, therefore, it is an element of figuration. In Example 30-25, the passing function of the E♭ (between the F of iv^6 and the D of V) is clearly evident. Therefore, these 5ths fall into the category of parallels caused by figuration, as discussed in Units 21 and 22. In addition, the resolution of the augmented 6th—the dissonant interval that characterizes the chord—holds the listener's attention; the other tones recede into the background and become less important.

30-25 *Mozart, Symphony No. 39, K. 543, I (strings only)*

15. *Moving to V^7.* Turn again to Example 30-19. Note that the augmented 6th chord of bar 113 moves directly to V^7 instead of V$\frac{8}{5}_{3}$. As we know, the 7th of V^7 represents a passing tone whose consonant point of origin (an octave) is elided. In our example, the dissonant interval of the augmented 6th appears

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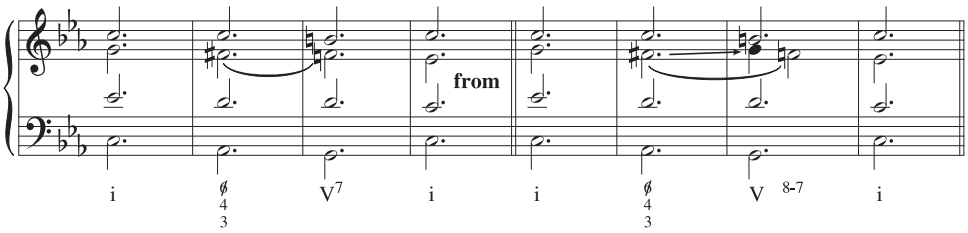
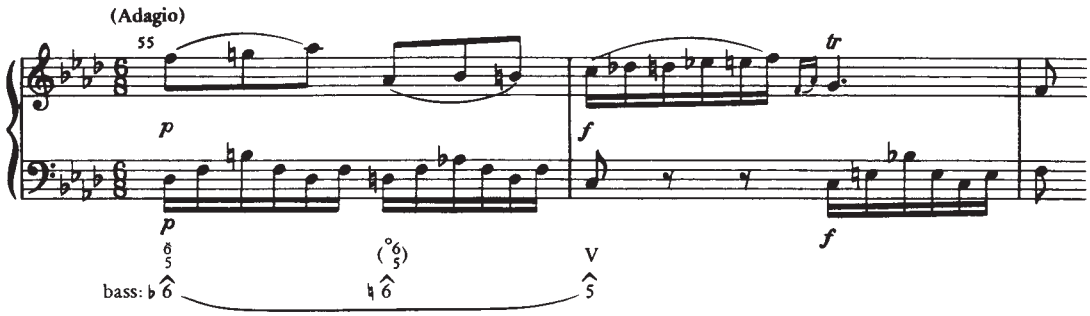
not to resolve—it moves to a 7th rather than an octave—but the resolution is so strongly implied by context that we do not hear the dissonance as unresolved. Direct motion from an augmented 6th to a V^7 occurs rather often, especially if the 7th is in an inner voice (Example 30-26).

30-26 *resolution of augmented 6th elided*



16. *Moving up from the Bass.* Sometimes the bass of an augmented 6th (usually a German $\frac{6}{5}$) moves up a chromatic half step before the resolution to V occurs (Example 30-27). In such cases, upward motion is merely a momentary inflection; the goal of motion remains the same.

30-27 *Mozart, Piano Sonata, K. 280, II*



In our next quotation, however (Example 30-28), the bass ascends chromatically from $\hat{6}$ to $\hat{1}$, bypassing root-position V altogether; the diminished seventh chord on B♮ substitutes for V here. In this example, $\hat{5}$, normally the goal of motion, is elided and the bass moves into the 3rd of dominant harmony (♮7), normally an inner-voice tone. This procedure, though far from unique, is certainly unusual. In this case, the rising bass has an important motivic purpose; in this connection, review Example 26-34, another excerpt from the same movement, and note the use of a similar rising chromatic line.

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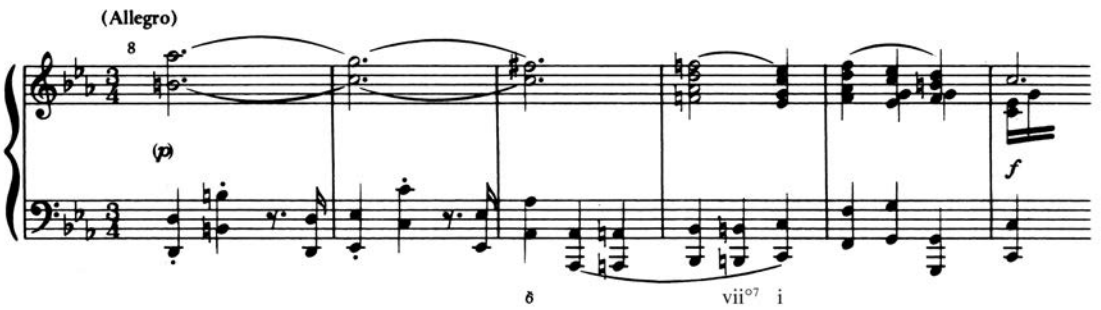
30-28 *Mozart, Piano Concerto, K. 491, I*



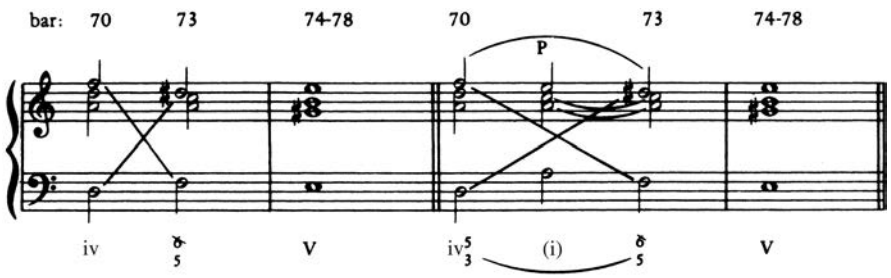
Augmented Sixths and Modulation

17. *Returning to Tonic Harmony.* Because of their striking sonority, and because their goals are normally identified as dominants, augmented 6th chords play an important role in modulation, especially in the large, structural modulations that help to determine the basic plan of a piece. For instance, in a modulation from B♭ to g (I to vi), an augmented 6th chord on E♭ will make the D-major chord to which it resolves sound like a V, thereby preparing the listener for the change of key.

One very important possibility is a modulation that returns to I, as at the end of a development section. Example 30-29 illustrates, in several states, a frequent way of effecting this: a motion from a tonicized iv through an augmented 6th to the home dominant. In Example 30-29a, the iv is transformed into an augmented 6th through a chromaticized voice exchange. In Example 30-29b, a (i) supports a passing tone in the soprano and also introduces two tones of the augmented 6th. In Example 30-29c, the progression is expanded by a sequential passing motion (from D to A in the bass) followed by a chromatic descent to V. If you refer to the opening example in this unit, you will see that Example 30-29 depicts the plan that governs this excerpt.

30-29 *modulation back to tonic key*

(a) *(b)*



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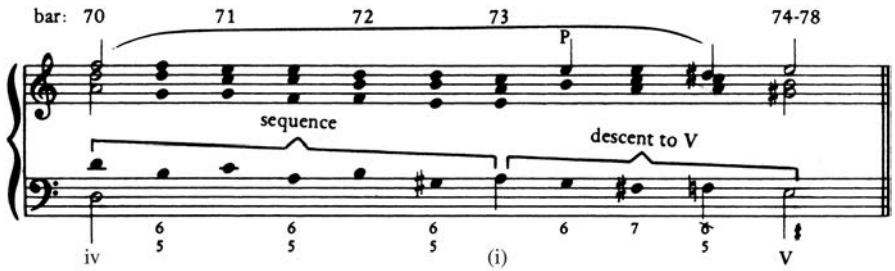
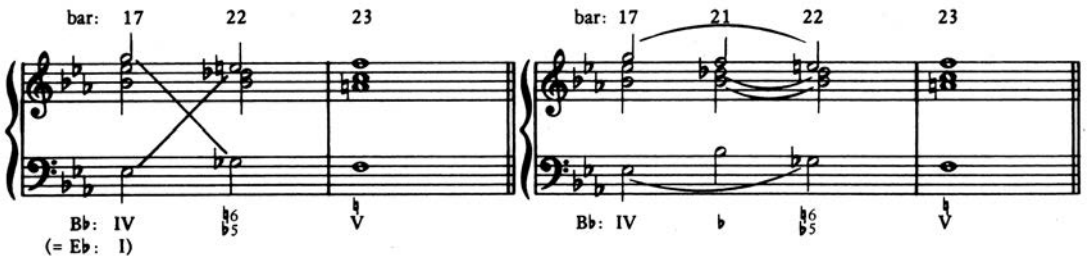
(c)



18. *Modulation from I to V in Major.* A plan similar to that in Example 30-29 can be used in moving from I to V in major. Example 30-30a shows the basic plan, again a chromaticized voice exchange. In Example 30-30b, we again find a transitional chord that supports a descending passing tone. Although the modulation is from E♭ major to B♭ major, the passing chord is a B♭-minor triad; the D♭ of this triad prepares the 5th of the German $\frac{6}{5}$. Example 30-30c shows the transition from the E♭-major tonic to the B♭-minor chord. This plan is drawn from an actual piece—the first movement of Beethoven's Violin Sonata, Op. 12, No. 3, bars 17–23; very similar plans govern many other modulations to be found in the literature.

30-30 *modulation from I to V*

(a) (b)



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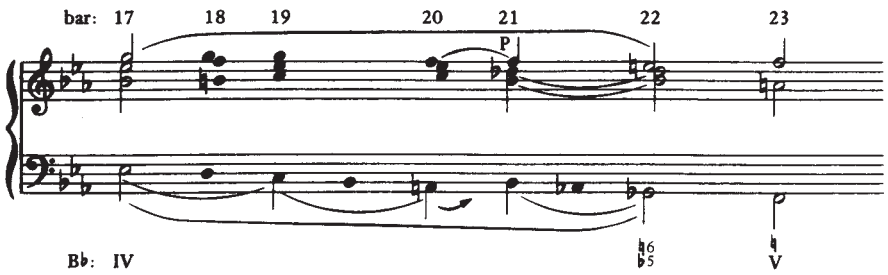

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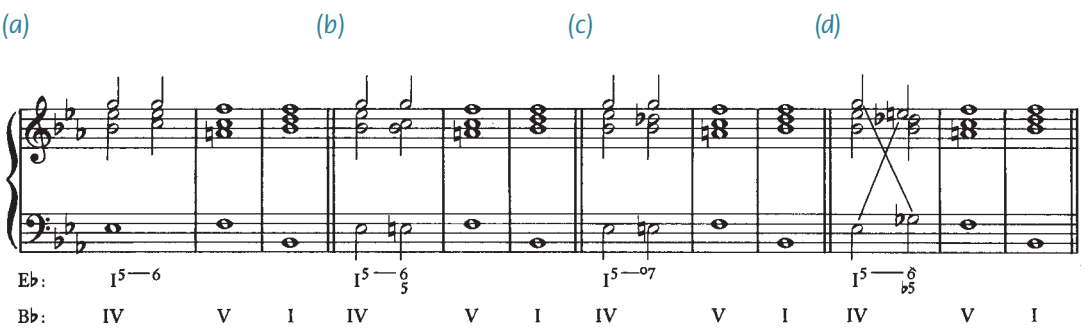
Example 30-31 contains four progressions, each the outline of a modulation from I to V in major. In Example 30-31a the modulation is effected by a 5-6 motion, as explained in Unit 15, Section 8. In Example 30-31b, an applied $\frac{6}{5}$, derived from the 6th of the 5-6, leads to the V of the dominant key area. In Example 30-31c, an applied °7 substitutes for the $\frac{6}{5}$; except for one note, the progression is the same as the one in Example 30-31b. The progression of Example 30-31d is very similar to Example 30-31c, though now we find an augmented 6th in place of °7. The chromaticized voice exchange complicates the voice leading slightly, but three of the notes are the same as those of the °7, and the only different one is merely a chromatic variant, G♭ instead of G. These progressions, then, form a related group; they are presented here in an order of increasingly complex chromaticism. All of them occur frequently in modulations to V, especially in modulations (like those in many sonata expositions) where the new key area is introduced by an emphasized preparatory dominant. Notice also that these progressions represent "intermediate pairs" that may shape larger spans of music; in such cases, the augmented 6th is a kind of chromatic outgrowth (and extension) of the diatonic IV (review IV-ii^6 in Unit 10).

30-31 *modulation to V: four ways*



"Inversions" of Augmented Sixth Chords

19. *Diminished 3rd Chords.* Chords containing the same tones as the Italian, German, and French 6ths but with scale degrees other than ♭$\hat{6}$ in the bass occur comparatively infrequently. Of these possibilities, the only ones that would normally move to root-position V are those with ♯$\hat{4}$ in the bass; they contain a diminished 3rd (or 10th) between the bass and one of the upper voices. As we know, ♯$\hat{4}$ supports a variety of dissonant chords that lead effectively to V, whereas ♭$\hat{6}$ does not. Furthermore, the augmented 6th (on ♭$\hat{6}$), which expands into an octave, gives greater emphasis to the interval of resolution than do the diminished 3rd and 10th, which contract. For these reasons, chords based on the diminished 3rd occur much less often than those containing augmented 6ths. Mozart, who favored augmented 6th chords, and who used them with incomparable mastery, avoided diminished 3rd chords altogether. They were used, however, by other great masters—by Chopin, in particular—to wonderful advantage.

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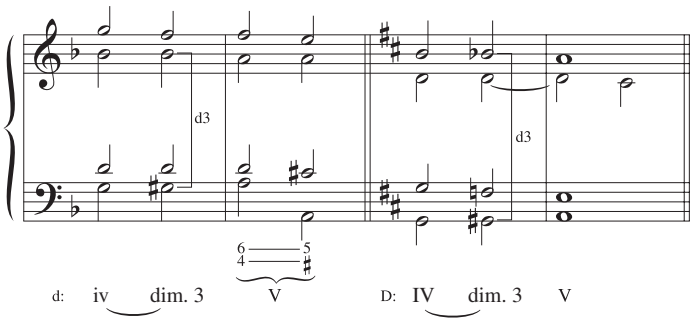
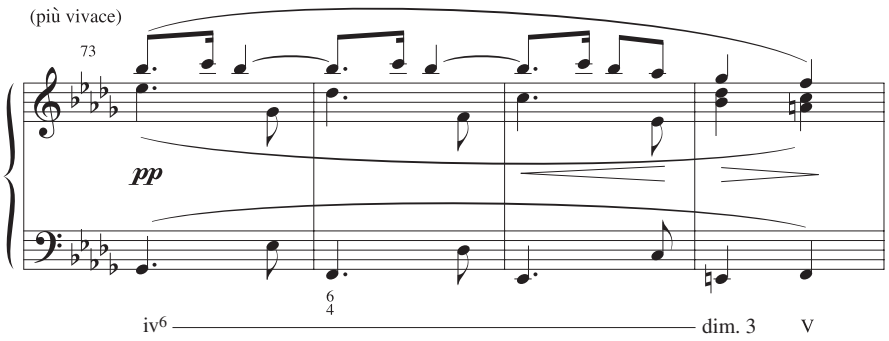
By far the most frequently used chord of the diminished 3rd is that which contains the same scale degrees as the German $\frac{6}{5}$. Example 30-32 shows the usual contrapuntal origin of the diminished 3rd; like the augmented 6th, it results from the use of $\sharp\hat{4}$ as a chromatic passing tone, only now in the bass rather than in an upper voice. Note the similarity to vii°7 of V.

30-32 *diminished 3rd chord*

(a) *(b)*



(c) Brahms, Variations on a Theme by Haydn, Op. 52a, Variation 2



The diminished 3rd chord can also occur more independently; it can replace a diatonic subdominant before a cadential V (Example 30-33).

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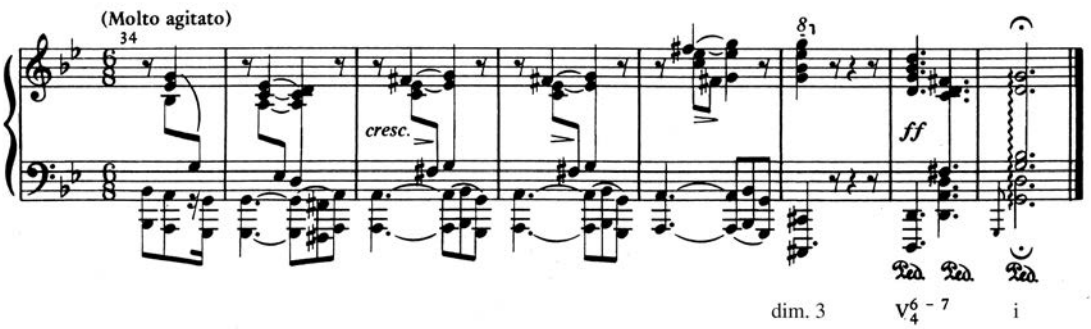
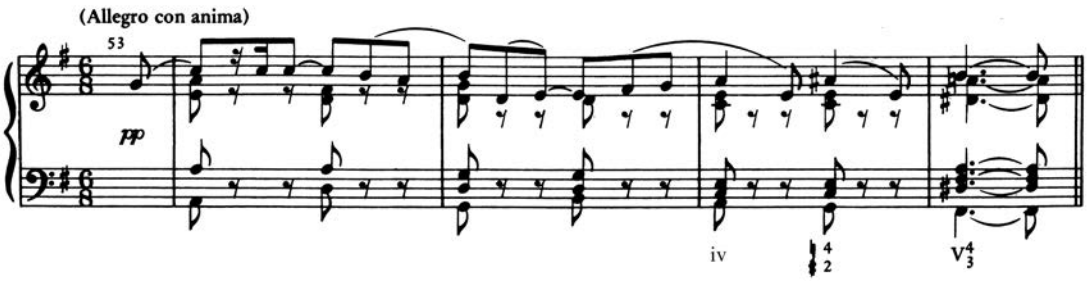
30-33 *Chopin, Prelude, Op. 28/22*



In addition, the diminished 3rd occurs appropriately in many of the situations where the German 6th is used: as neighbor to V (or the cadential $\frac{6}{4}$), in a voice exchange from a diatonic subdominant, and so on. We will also see in Unit 31 that diminished 3rd chords occur frequently in chromatic passages based on contrary motion. You will have no difficulty understanding these usages when you encounter them.

20. *Other Positions.* If tones other than $\flat\hat{6}$ or $\sharp\hat{4}$ occur in the bass, the chord will not move by stepwise bass to root-position V.* Therefore such chords tend not to possess any long-range structural importance in music before the late nineteenth century—a time when composers sought alternatives to the frequent use of root-position V at cadences. In an excerpt from Tchaikovsky (Example 30-34), V_3^4 functions as the goal of a semicadence. Tchaikovsky strengthens this normally weak inversion of V^7 by resolving into it from the $\frac{4}{2}$ equivalent of the German $\frac{6}{5}$.

30-34 *Tchaikovsky, Symphony No. 5, Op. 64*

*The root-position equivalent of the French 6th has $\hat{2}$ in the bass and moves by leap to root-position V. It functions as $V\flat_5^7$ of V with a diminished 5th replacing the normal 5th. Altered V^7 chords will be taken up in Unit 31, Sections 10 and 11.

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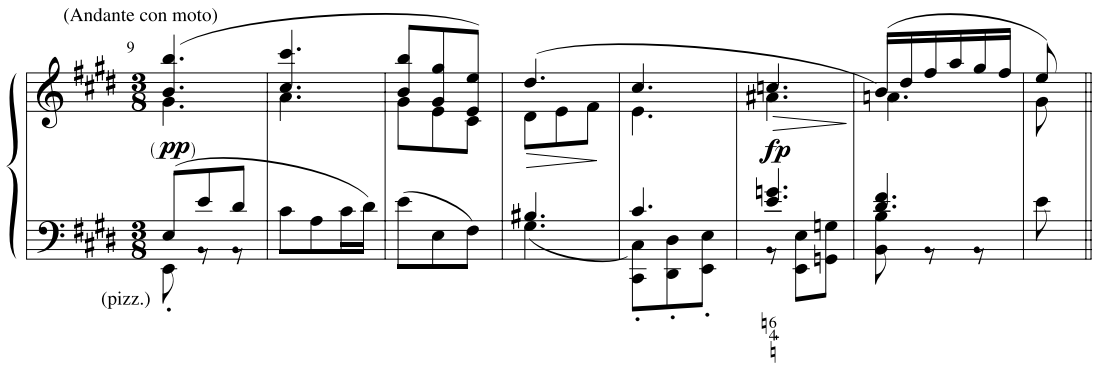
Example 30-35 shows a most unusual and beautiful cadential passage from the 2nd movement of Schubert's "Unfinished" Symphony. Here the C♮ of the top voice would normally be supported by a diminished 3rd chord with A♯ in the bass, but Schubert writes a wide-ranging arpeggiated line that produces the $\frac{4}{3}$ version of the German 6th.

30-35 *Schubert, Symphony No. 8, D. 759, II*



Musicians sometimes refer to altered chords like those in Examples 30-32 through 30-35 as "inverted augmented 6ths." Though not literally correct—the augmented 6ths are not root-position chords—the expression nonetheless conveys a truth. The linear forces that govern the origin and resolution of this family of chords are usually most effectively expressed when the bass and an upper voice form an augmented 6th.

Motion to Applied Dominants and Nondominant Chords

21. *Augmented 6ths in Sequential Passages.* Most augmented 6ths move to dominants, but not necessarily to the main dominant of the key. Often, they intensify applied dominant chords. This possibility is especially useful in sequential passages. Example 30-36 contains a sequence rising in 3rds in which each new step is tonicized by an applied dominant. The applied dominants, in turn, are preceded by augmented 6ths.

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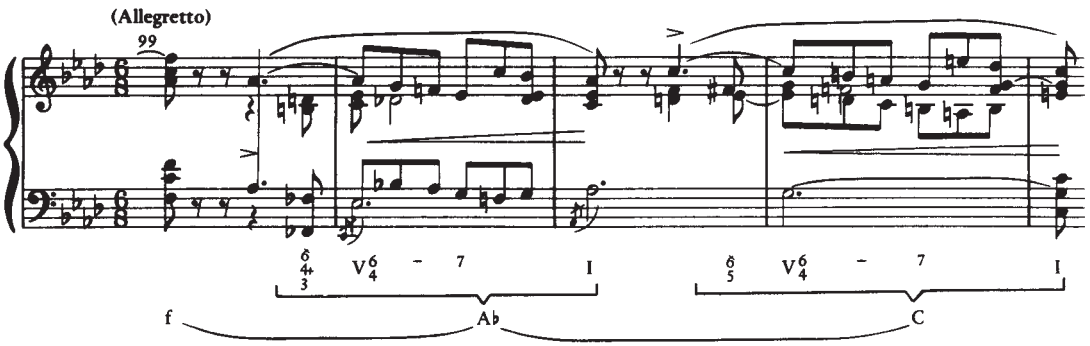
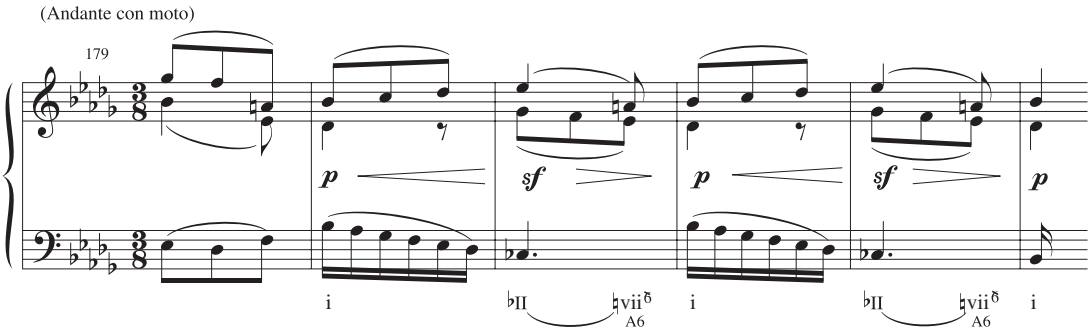
30-36 *Chopin, Ballade, Op. 47*



22. *Resolving to I.* Augmented 6th chords can result from chromatic neighbors that expand a tonic—usually a major one, and frequently a final tonic near the end of a piece. The bass of the augmented 6th is ♭$\hat{2}$; one of the upper voices takes $\hat{7}$. Because it is based on ♭$\hat{2}$, this type of augmented 6th chord has a "Neapolitan" flavor, a flavor strongly evident in Example 30-37, where the chord begins as a $\frac{5}{3}$ with the augmented 6th replacing the 5th later. In this passage, the augmented 6th untypically expands a minor tonic.

30-37 *Brahms, Variations on a Theme by Haydn, Op. 56a, Variation IV*



V^4_3 chords are sometimes inflected to become French 6ths that resolve into tonics. In the excerpt shown in Example 30-38, Tchaikovsky uses a V^4_3 to lead into a goal tonic—a situation where most other composers would have used a root-position V. (Compare the very different use of V^4_3 in Example 30-34.) In this excerpt, the V^4_3 is modified by chromatic inflection and becomes a French 6th; the E♭ in the bass functions as a passing tone, but one very much emphasized by repetition and duration.

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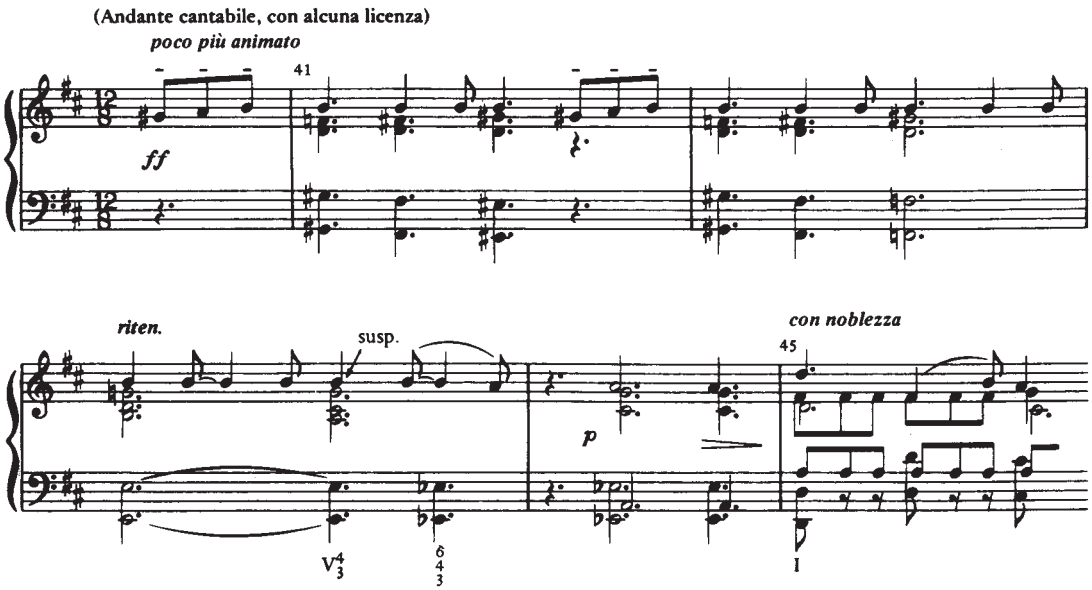
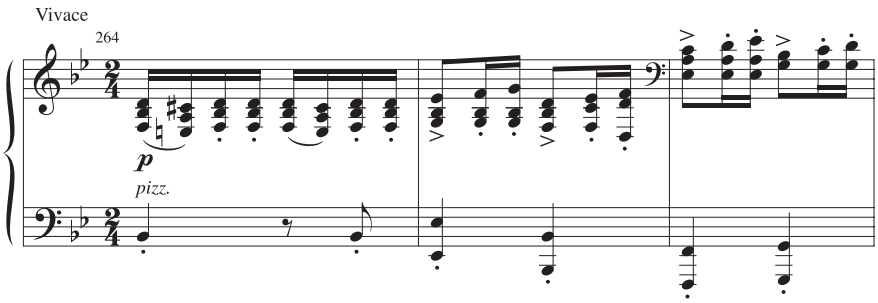
30-38 *Tchaikovsky, Symphony No. 5, Op. 64, II*

23. *Resolving to III♯.* Sometimes an augmented 6th chord will lead to III♯, as in Example 30-39, producing a chromaticized equivalent of the Phrygian cadence discussed in connection with Example 24-10. Like a false clue in a mystery story, this can deceive the listener. Here, the augmented 6th moving to a D-major chord makes us expect a tonicization of vi (G minor), but the music returns to the tonic instead. Augmented 6ths resolving to III♯ often appear in the development sections of sonata-form movements (especially by Haydn and Mozart), where such deceptive procedures can be particularly appropriate.

30-39 *Brahms, Variations on a Theme by Haydn, Op. 56a, Variation VI*

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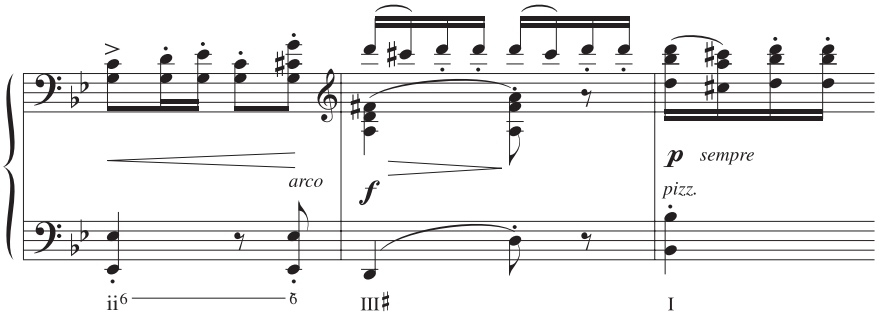
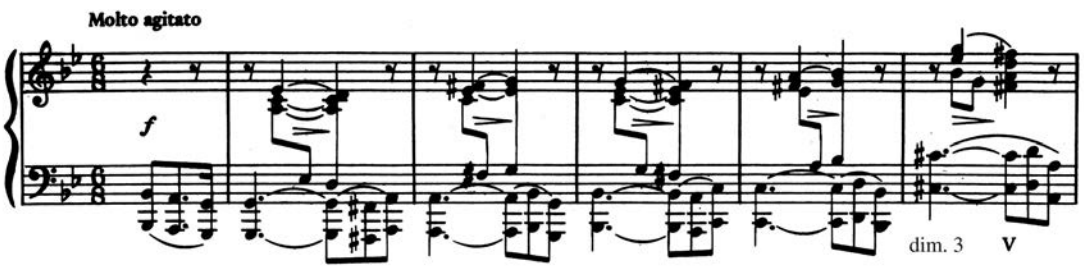


German Sixth and Dominant Seventh

24. An Enharmonic Relationship. You have doubtless noticed that the German $\frac{6}{5}$ is enharmonically equivalent to a dominant seventh chord—specifically, V^7 of ♭II. These two chords—so divergent in function but so similar in sonority—provide wonderful opportunities for composers, especially for those with a dramatic conception of musical structure. Example 30-40 shows two excerpts from Chopin's Prelude in G minor. The diminished 3rd equivalent of the German $\frac{6}{5}$ is a prominent feature of Example 30-40a. Example 30-40b tonicizes $\flat II^6$ largely through an applied V^4_2—enharmonically equivalent to the earlier chord of the diminished 3rd. Chopin uses the enharmonic relationship to connect two contrasting sections of the piece. The C♯ early in the piece also helps to prepare the very prominent D♭ chord (IV of ♭II) in bar 17. And finally, the C♯'s and D♭'s of the first part of the piece add to the effect of the wonderful climax on the diminished 3rd at the very end (Example 30-33). Here, the enharmonic equivalency helps to give coherence to the piece, for it forms the most striking element in its design.

30-40 *Chopin, Prelude, Op. 28/22*

(a)



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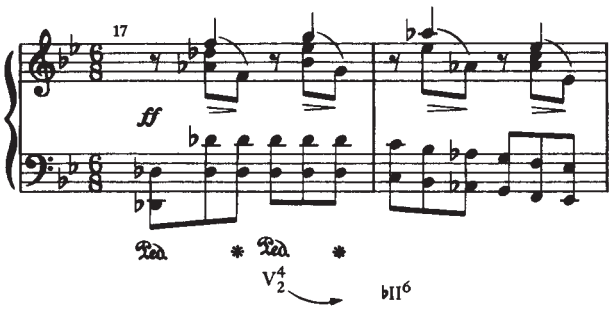
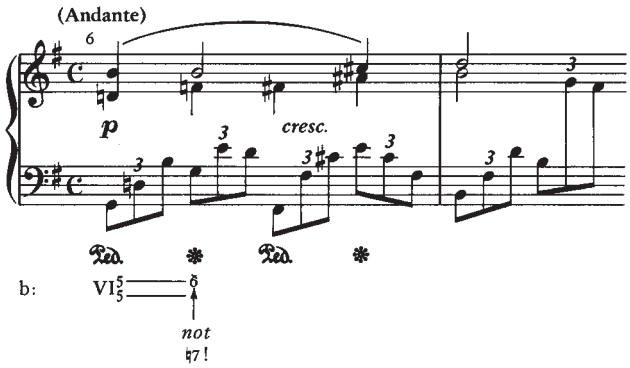
(b)



As we shall see in Unit 33, the enharmonic connection between the German $\frac{6}{5}$ and the dominant seventh can be of considerable help in modulation.

Note: Some composers—Chopin in particular—occasionally notate an augmented 6th chord as a dominant seventh. In such cases, the context will always clarify the function of the chord. The reasons for such enharmonic notation can vary: Ease in reading and motivic connections with other parts of the piece are probably the most frequent. The phrase that follows the excerpt shown in Example 30-41 tonicizes C major, and Chopin's "incorrect" notation points to this later development.

30-41 *Chopin, Nocturne, Op. 72/1*



25. *The "Neapolitan $\frac{6}{4}$" as an Embellishment of the German $\frac{6}{5}$.* Composers often use a "Neapolitan $\frac{6}{4}$" as if it were a cadential $\frac{6}{4}$ resolving to a V or V^7. They might then transform the supposed dominant into its enharmonic equivalent, the German $\frac{6}{5}$. Schubert demonstrates this possibility most movingly in the excerpt quoted in Example 30-42. Note that the chord of resolution is first notated as a V^7 (bar 43), as if the piece were going to gravitate to C major. Only at the second statement of the passage does Schubert's notation make it clear that the C major is an impossible hope, that the piece will subside into B minor.

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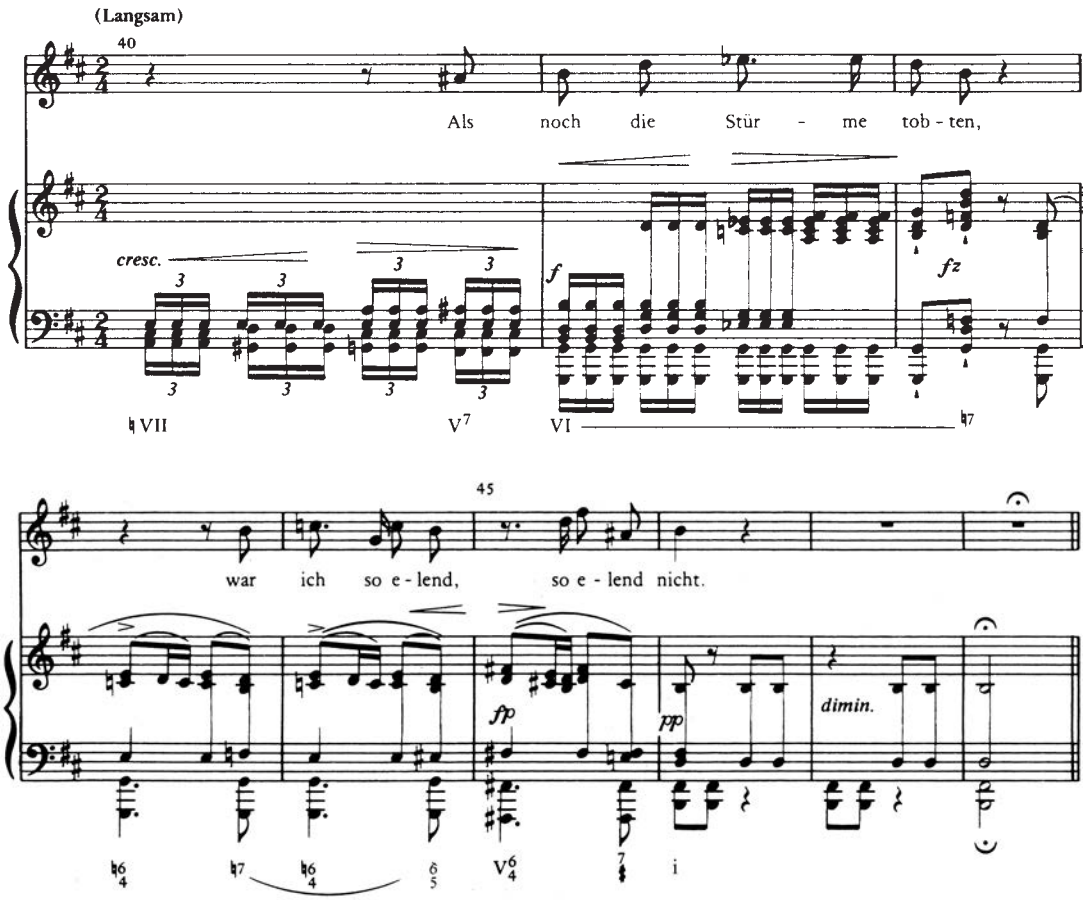
30-42 *Schubert, "Einsamkeit"* *(from Winterreise, D. 911)*

translation: While the storms still raged, I was not so wretched.

POINTS FOR REVIEW

1. Augmented 6th chords contain the interval of an augmented 6th above the bass, resolving to an octave, usually on $\hat{5}$. They normally proceed to V or V^7, possibly embellished by a cadential $\frac{6}{4}$. Through contraction, the interval of the augmented 6th can move directly to the 7th of V^7.
2. The three main types are:
   a. the Italian $\frac{6}{3}$ (augmented 6th plus major 3rd above bass). In four-part texture, double the 3rd above the bass.
   b. the German $\frac{6}{5}$ (Italian 6th plus perfect 5th above the bass). It usually resolves to a cadential $\frac{6}{4}$ to avoid 5ths that would occur if it proceeded directly to V. 5ths are sometimes tolerable in this progression, if not between outer voices.
   c. the French $\frac{4}{3}$ (Italian 6th plus augmented 4th above bass).
   d. An alternative possibility to the German $\frac{6}{5}$ is the German $\frac{4}{3}$ (Italian 6th plus doubly augmented 4th above bass).

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Occasionally replaces German $\frac{6}{5}$ when resolution is to *major* $\frac{6}{4}$.

3. Augmented 6th chords frequently represent a chromatic inflection of IV or ii on the way to V. Some possibilities:
   a. chromatic inflection ♮$\hat{4}$-♯$\hat{4}$, usually from IV^6.
   b. chromatic voice exchange from IV, sometimes from ii$^6_5$.
   c. bass motion ♮$\hat{6}$-♭$\hat{6}$ from altered ii or IV.
   d. voice exchange from applied dominant $\frac{6}{5}$ or diminished 7th to V.
4. Augmented 6th chords come frequently from the tonic, often in connection with a chromatically descending bass, a chromatically rising soprano, or both. Motion from ♭VI over a sustained bass is another important possibility.
5. Augmented 6th chords—especially the French $\frac{4}{3}$—often function as neighbors of V.
6. Long-range functions include preparing modulations to V in major and preparing return modulations to I, both in major and in minor. The underlying plan of such a modulation might include a large-scale voice exchange.
7. Positions with scale degrees other than ♭$\hat{6}$ in the bass occur less frequently. Most of the important possibilities are built on ♯$\hat{4}$ and resolve to root-position V; these are frequently called diminished 3rd chords because they contain that interval above the bass. ♯IV$^7_{5\,\flat}$ (corresponding to German $\frac{6}{5}$ in the major mode) is the most frequently used.
8. Augmented 6th chords can move to chords other than V. They occur effectively in sequences, often preceding applied dominants. Augmented 6ths on ♭$\hat{2}$ sometimes occur as neighbors to I (usually major), often at the end of the piece.
9. The enharmonic relationship between the German $\frac{6}{5}$ and the dominant seventh chord can play an important part in composition. Sometimes a "Neapolitan $\frac{6}{4}$" decorates the German $\frac{6}{5}$ in the manner of a cadential $\frac{6}{4}$ chord.

These general guidelines will help you to spell augmented 6th chords:

1. Think down a major 3rd from the tonic ($\hat{6}$ in minor, lowered $\hat{6}$ in major).
2. Add ♯4 above this tone (producing the interval of the augmented 6th).
3. Add the tonic note; for the Italian $\frac{6}{3}$, double it.
4. For the German $\frac{6}{5}$, add a perfect fifth above the original bass note ($\hat{6}$ or lowered $\hat{6}$).
5. For the French $\frac{4}{3}$, add a whole step above the tonic.

EXERCISES

1. Preliminaries. Write each of the following progressions in four different minor and four different major keys. Use four-part texture.
   a. Italian 6th—V.
   b. German $\frac{6}{5}$—V$^{6\text{-}5}_{4\text{-}3}$.
   c. French $\frac{4}{3}$—V.
   d. German $\frac{4}{3}$ (doubly augmented 4th)—V$^{6\text{-}5}_{4\text{-}3}$ (major only).

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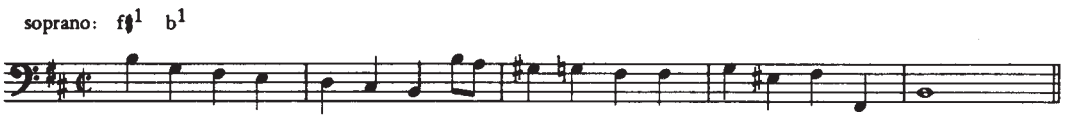
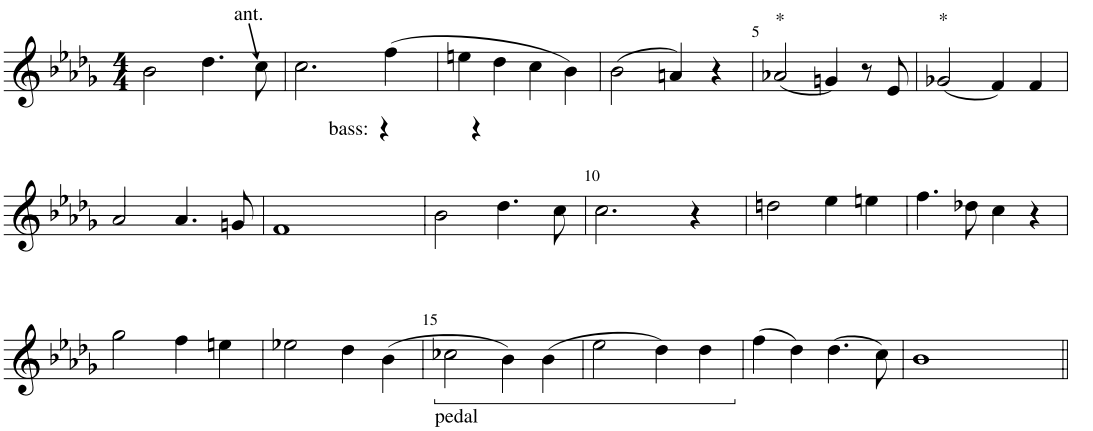
2. Write more extended four-part progressions that illustrate the following:
   a. iv^6 in minor becomes Italian 6th.
   b. IV in major becomes German $\frac{6}{5}$ through a chromaticized voice exchange.
   c. $V\frac{4}{3}$ of V in major becomes French $\frac{4}{3}$.
   d. VI in minor becomes German $\frac{6}{5}$.
   e. i in minor leads to a German $\frac{6}{5}$ through a chromatically descending bass.
   f. A French $\frac{4}{3}$ in minor acts as a neighboring chord to V.
3. Write a phrase (in four-part or free texture) in which an augmented 6th chord intensifies a modulation to V in major.
4. Less frequent usages. Write four-part progressions showing:
   a. A diminished 3rd leading from iv to V in minor.
   b. A French $\frac{4}{3}$ as a neighboring chord of I in major.
   c. The "Neapolitan $\frac{6}{4}$" embellishing a German $\frac{6}{5}$ in minor.
5. Unfigured bass. Use augmented 6th or diminished 3rd chords wherever appropriate.

6. Melody (* = °7). Use augmented 6th or diminished 3rd chords wherever appropriate.



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Guided Exercises
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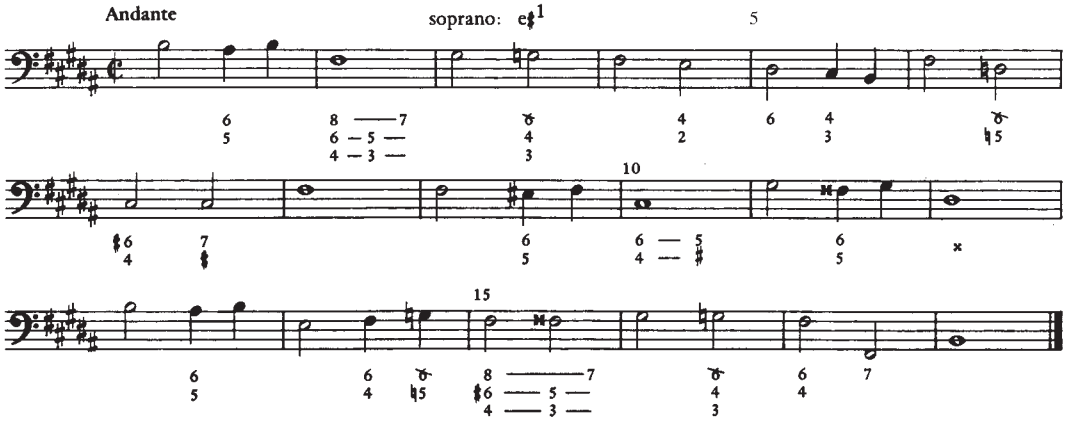
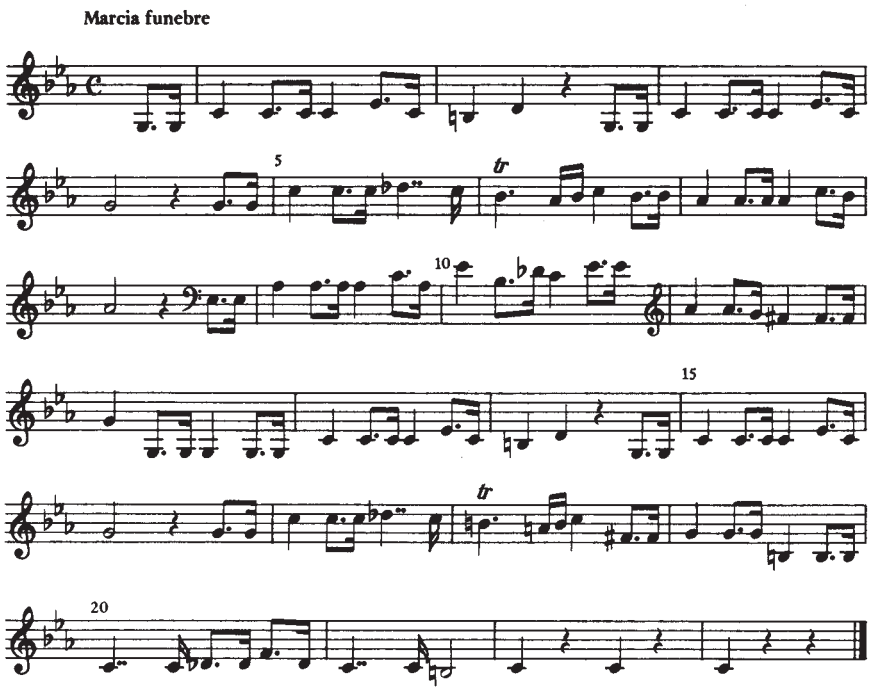
7. Figured bass. In measures 7 and 17, the $\frac{6}{4}$'s may resolve indirectly.

8. Melody. Set as an instrumental piece (keyboard or wind ensemble, etc.); vocal ranges need not be observed. Carry through the march rhythm in the lower voices, using repeated chords where appropriate. In this exercise, the harmonic rhythm will vary—sometimes moving only in half notes, sometimes following the rhythm of the soprano voice. Look for opportunities to use augmented 6th chords.

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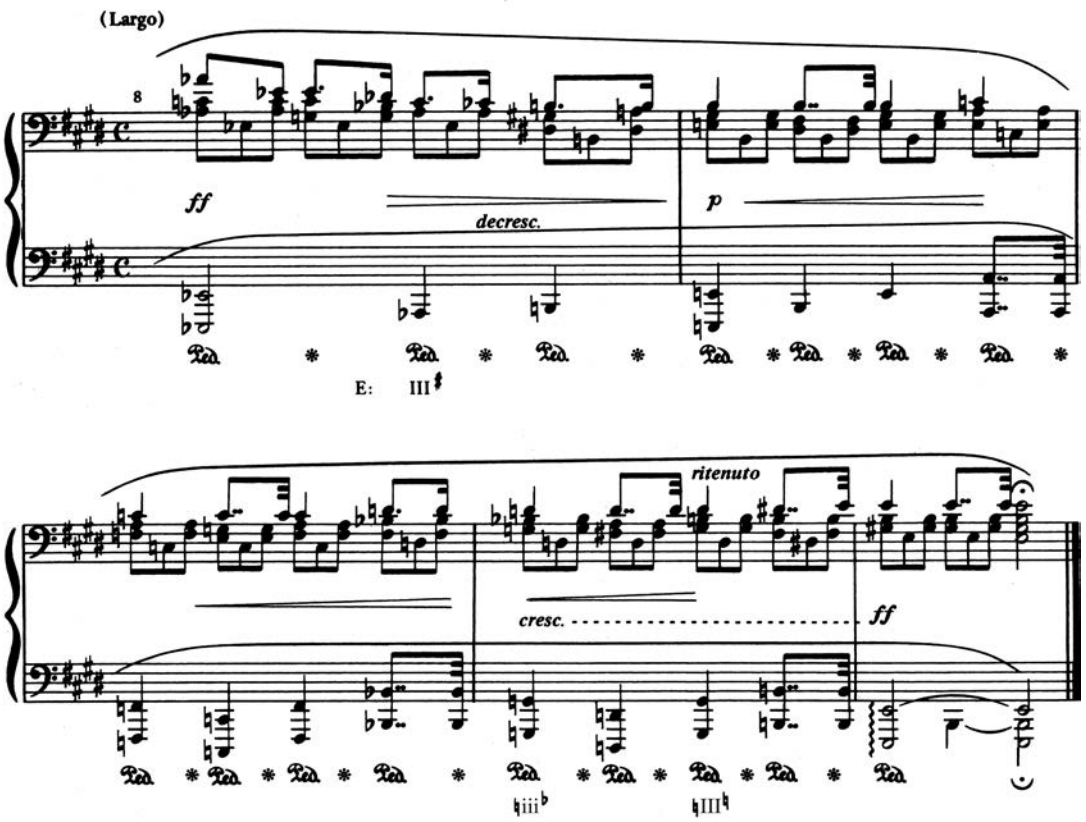
UNIT

31

Other Chromatic Chords

31-1

(a) Chopin, Prelude, Op. 28/9



MINDTAP

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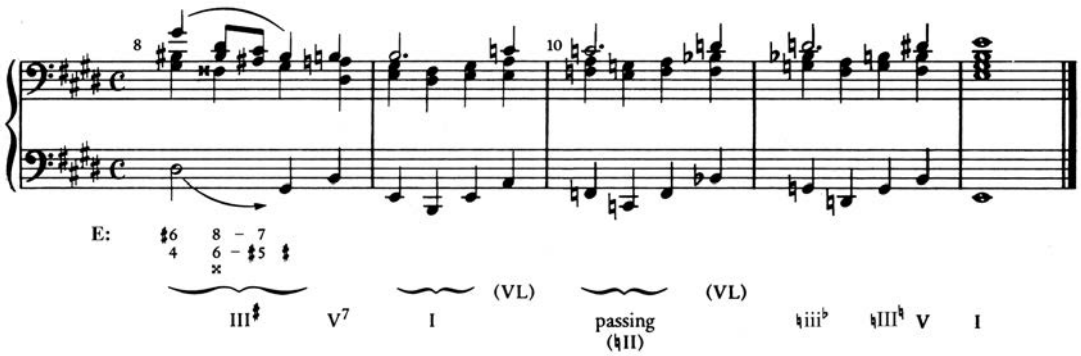
(b) reduction



Advanced Uses of Mixture

1. *Simple Mixture, Secondary Mixture, and Double Mixture.* Example 31-1 shows the last five bars of a brief but highly chromatic piece by Chopin. After a climactic authentic cadence in A♭, we find the following "foreign" triads: A minor, F major, C major, B♭ major, G minor, D major, and G major. How do these elements function so convincingly within a larger context in E major?

To answer this question, we must first distinguish between chords that have a purely local function and those that enter into larger tonal relationships. Obviously, the A♭ chord of bar 8 represents an important event. And, because it is followed immediately by a V-I progression in E, it must have some relation to the main tonic. That relation is easy to understand once we realize that the A♭ major is merely an enharmonic respelling of G♯ major—III♯ in E, part of the harmonic progression III♯-V-I—see the reduction in Example 31-1b. As you learned in Unit 24, the use of III♯ in major is an example of *secondary mixture.*

The final cadence of the piece also shows the use of mixture, but mixture of a different kind. The G-major triad of bar 11 is another type of altered III; it is the mediant borrowed from the parallel minor. A most striking feature of this piece, therefore, is the close juxtaposition of, and strong contrast between, two forms of the progression III-V-I: G♯(A♭)-B-E and G♮-B-E. Moreover, there is yet a third altered form of the mediant in this excerpt. At the beginning of bar 11 we find a G-*minor* triad that connects, through an applied dominant, to the cadential G-major triad.

Example 31-1a demonstrates three different types of mixture. They are:

1. Simple mixture, borrowing an element from the parallel mode—the G-major chord.
2. Secondary mixture, altering the quality of a triad that belongs to the key without borrowing tones from the parallel mode—the G♯(A♭)-major chord.
3. Double mixture, applying secondary mixture to a triad achieved through simple mixture—the G-major chord, a product of simple mixture, is altered to become a G-minor chord.

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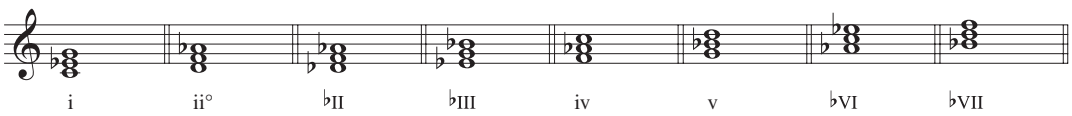
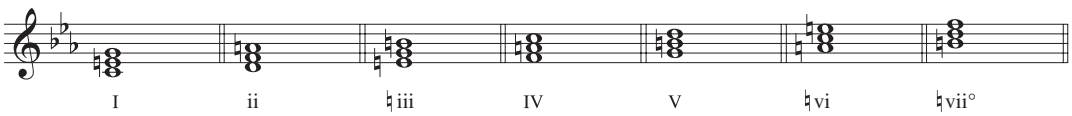
Once we understand the function and origins of the A♭-major, G-minor, and G-major chords, the rest of the passage becomes much more accessible. As the reduction (Example 31-1b) indicates, the F-major chord of bar 10 (♮II) makes possible a passing motion from I to ♮iii. The A-minor and B♭-major chords of bars 9 and 10, fourth beats, break up parallels between the main chords of those measures. And the C and D chords of bars 10 and 11 are, of course, applied dominants.

2. *Simple Mixture.* Example 31-2 shows the major, minor, and likely diminished triads that can be introduced into C major and minor through simple mixture; some of them are already familiar to us from Units 24 and 29 (we count the Neapolitan ♭II as part of minor). It is interesting to note that mixture tends to create the effect of a special device more in major than in minor. This is because ♯$\hat{6}$ and ♯$\hat{7}$—themselves products of mixture—are necessary for the normal functioning of the minor mode; a certain amount of mixture, therefore, is already built into the structure of pieces in minor.

31-2 *simple mixture*

(a) in C major

(b) in C minor



The most important chords produced by mixture are those presented in Unit 24. The others occur much less often, and usually follow from the particular expressive or structural character of a given passage. Of the remaining possibilities, the most important are ♭III, v, and ♭VII in major. We saw an example of ♭III in the Chopin excerpt that begins this unit; in that piece, the use of contrasting forms of the mediant constitutes a kind of motivic element. Example 31-3 shows a beautiful use of v in major; the unexpected minor quality underlines the words "cool" and "shady." Note that V immediately reverts to its normal, major quality to prepare the eventual return of I.

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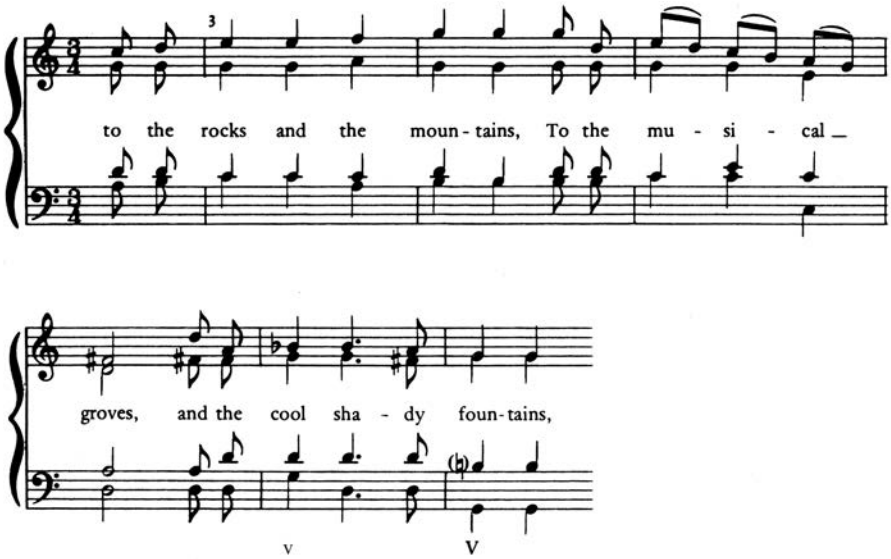
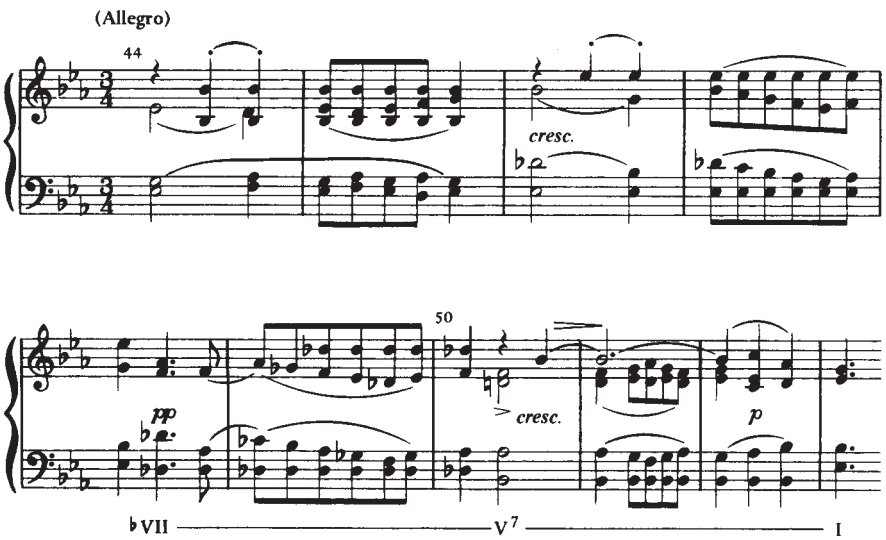
31-3 *Purcell, Dido and Aeneas, Chorus*



Sometimes ♭VII in major—like natural VII in minor (Unit 16, Section 11)—leads to V^7. In Example 31-4, ♭VII connects with V^7, the 5th of ♭VII preparing the 7th of V^7.

31-4 *Schubert, Piano Sonata, D. 958, I*



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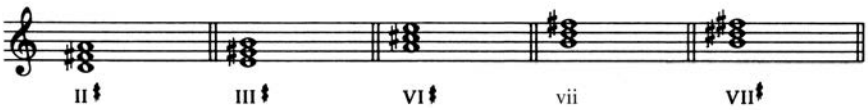
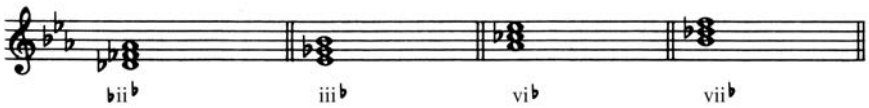
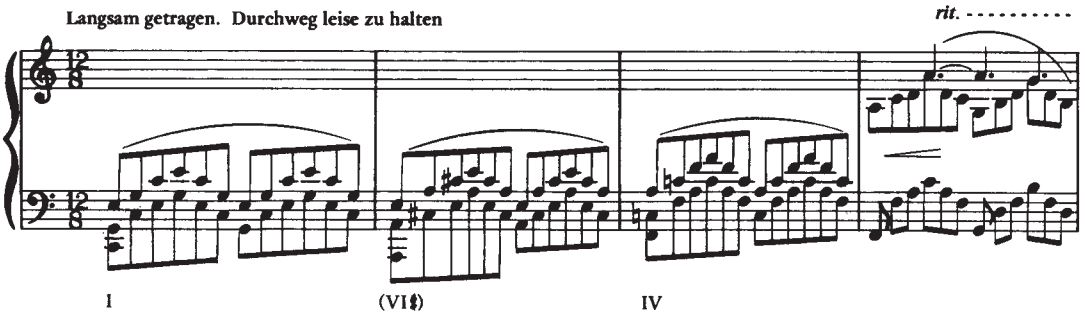
3. *Secondary Mixture.* As we saw in Unit 24, by far the most important product of secondary mixture is III♯ in major. Example 31-5 also shows other possibilities in both major and minor.

31-5 *secondary mixture*

(a) in C major

(b) in C minor

An important possibility is VI♯ in major. Example 31-6 contains an A-major chord as VI♯ in C major. Note that this chord does *not* function as we might expect—as V of ii. Instead, it fulfills another basic function of the submediant triad: to lead down in 3rds from I to IV. Raising C to C♯ gives emphasis to the chord and intensifies the "searching" quality of these bars.

31-6 *Schumann, Fantasy, Op. 17, III*



Leading-tone triads are sometimes altered so that they become major or minor triads. This gives them a momentary stability that would be impossible with their normal diminished quality. In Example 31-7, $VII^{5\sharp}_{\sharp}$ first appears as V of a briefly tonicized iii but then functions as the upper 3rd of an important cadential V^7. Note the beautiful chromatic descent in the upper voices as the altered leading-tone triad melts into V^7.

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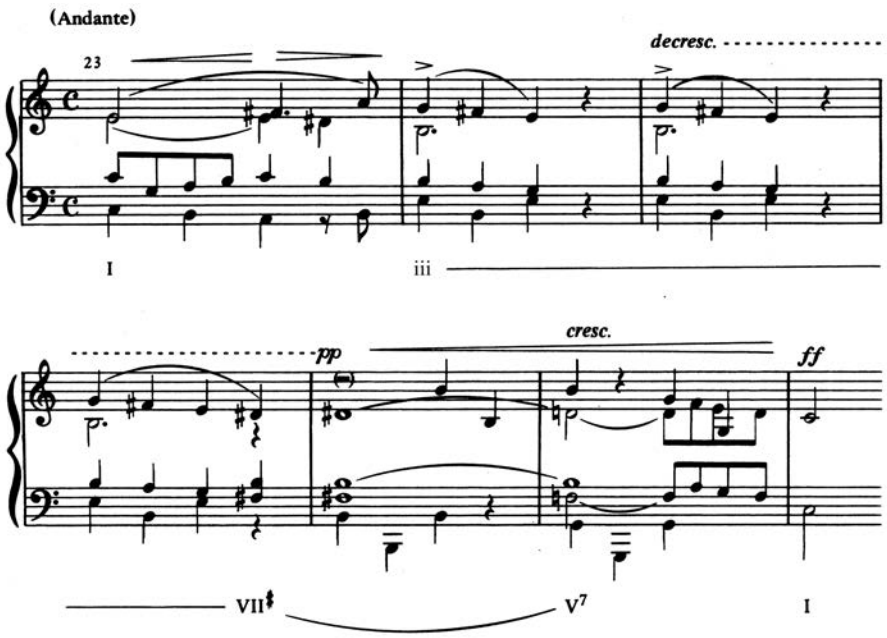
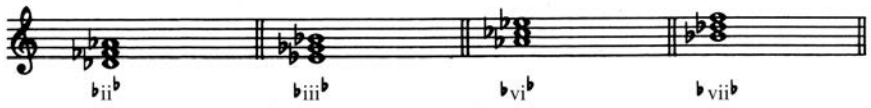
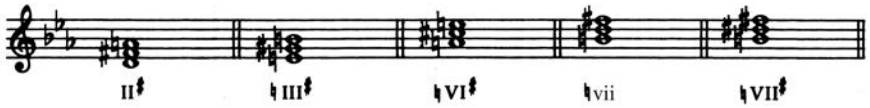
31-7 *Schubert, Symphony No. 9 ("The Great"), D. 944, I*



4. ***Double Mixture.*** Example 31-8 shows double mixture in major and minor. The G-minor chord in bar 11 of Example 31-1 is ♮iii of E major and, consequently, an instance of double mixture. Example 31-9 provides an even more dramatic illustration, for here the altered chord is the climactic event of the phrase. The chord in question is the Phrygian II, normally an element of minor, used in major and altered to become a minor triad. Note that the chord following ♮ii has a double meaning; at first, it sounds like V^7 of the preceding F minor but turns out to be a German 6th leading into V of E.

31-8 *double mixture*

(a) in C major

(b) in C minor

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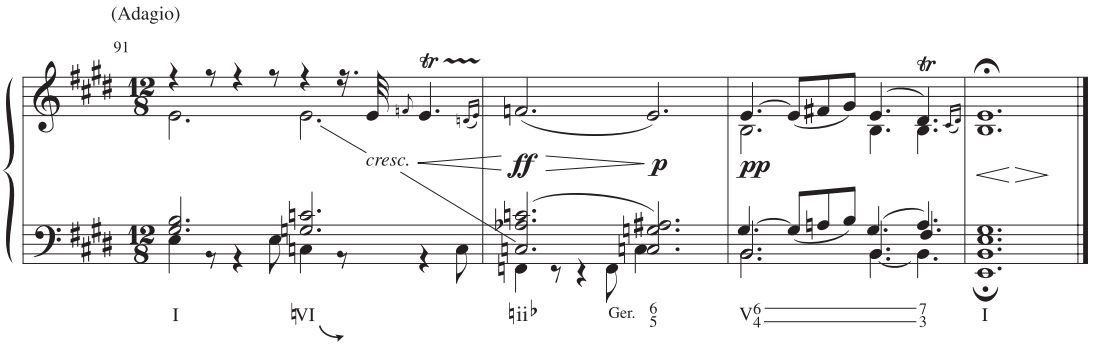
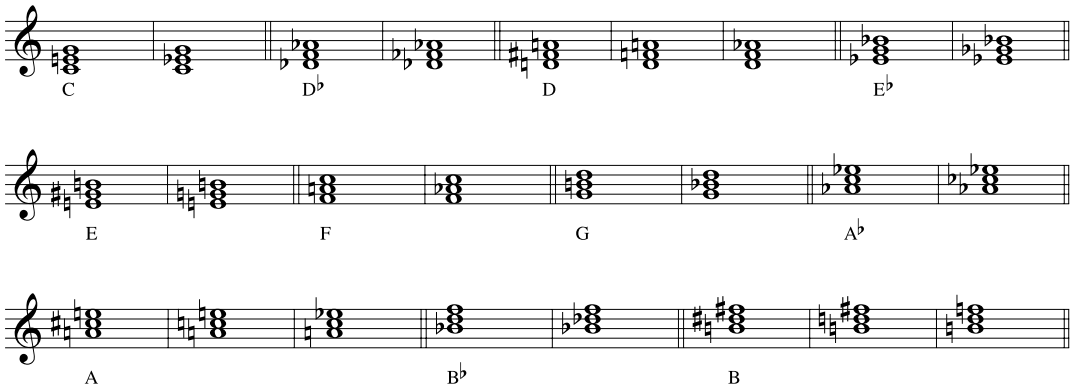
31-9 *Schubert, String Quintet, D. 956, II*



The three types of mixture produce triads on every note of the chromatic scale except ♯4̂ (or ♭5̂). ♯4̂ does not occur naturally in major or minor keys, so it cannot be the root of a chord produced by mixture. Example 31-10 shows the significant possibilities for C major and C minor.

31-10 *chords in C major and minor produced by mixture*



5. *Preparing Chromatic Chords.* Some of the altered chords produced by the various kinds of mixture occur easily and require little or no special preparation. This is particularly true of those presented in Unit 24. Some of the others—especially those resulting from double mixture—can sound forced and unconvincing if they occur in an otherwise diatonic context. An E♭-minor chord abruptly introduced into a phrase in C major will sound like an intruder rather than a variant of iii. The more drastic alterations, therefore, require preparation to function effectively as representatives of their scale degrees.

Such preparation can be of various kinds. In Example 31-4, bar 46, the use of D♭ as part of an applied dominant to IV prepares the listener for the subsequent D♭ chord (bar 48) and helps to integrate it into the passage as a whole. Or to generalize, the unusual use of an altered scale degree will sound less odd if the listener can associate it with a prior statement of the same scale degree used in a simpler, more normal fashion.

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In Example 31-3, the preparation of the G-minor chord is different, but equally convincing. Note that an applied dominant lasting a full bar precedes the chord. Most listeners, surely, would expect this applied dominant to move to a G-major chord. But G major and G minor share the same dominant; therefore, the minor chord, though unexpected, appears logical in retrospect. Preceding a chromatic chord by its own applied chord can be one of the simplest and most effective ways to prepare it.

The F-minor chord of Example 31-9 also follows its own dominant, but it has another sort of preparation as well. The middle section of the movement (bars 29–63) begins with a long and stormy passage in F minor; the strange altered chord at the end of the piece is a recollection of this earlier episode, whose turbulent character is reflected in the crescendo and fortissimo of bars 91–92.

Of the many chromatic chords in Example 31-1, the G-minor triad of bar 11 is the most foreign sounding. Several features of this chromatic passage help to prepare the G-minor chord. First, the passage is sequential; chords that belong to a repeated pattern tend to stand out less than those that do not. Second, the preceding bar centers on the F-major triad—♮II functioning as a passing chord. Because the G-minor triad occurs in the key of F, it grows naturally out of what comes just before it. Third, and perhaps most important, the alto line of bars 9–12 is based on the chromatic ascent G♯-A-B♭-B♮. The G-minor chord and the G-major one that follows it result from this chromatic linear progression.* If the altered tone of a chromatic chord forms part of a chromatic melodic progression, the chord will create a less disruptive effect than in a more diatonic context.

In Unit 33, we shall discuss how expansions of altered triads can occur within large-scale tonal progression. Some of the more drastic alterations—those requiring a fairly extensive preparation—often function more effectively within a large structure than as details.

6. Seventh Chords through Mixture. Seventh chords, as well as triads, can be modified by mixture. Among the obvious examples are ii$^{\text{ø}\frac{6}{5}}_{\flat}$, vii$^{\circ 7}$, and the German and French 6ths—all in major. When the altered chord is directed to some other harmony as the goal, the combination of chromaticism and dissonance can intensify the motion. But if the chord arrived at through mixture is to form a focal point, adding a dissonance may well neutralize its coloristic effect.

Augmented Triads

7. The Augmented 5th as an Upper-Voice Passing Tone. Augmented triads—unlike major, minor, and diminished triads—cannot be derived from major and natural minor scales without the use of accidentals. Sometimes (Unit 19)

*Compare the C-minor chord of Example 30-20b in which the E♭ similarly forms part of a rising chromatic line, this time in the soprano.

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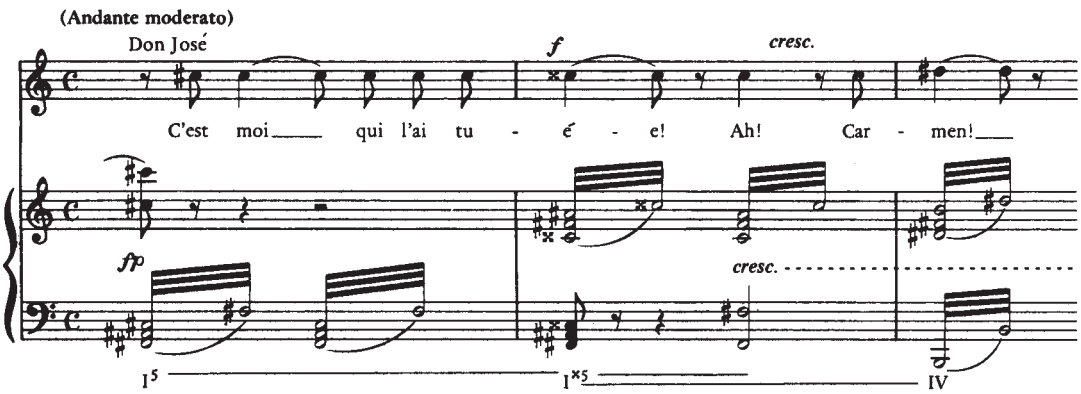
they come about when a 6th displaces the 5th of the dominant in minor. Most of the other augmented triads that occur in tonal music are the product of chromaticism. In all cases, the augmented quality results from voice-leading activity: the augmented triad expands or represents a major or minor triad; it does not function as a self-sufficient harmonic entity.

Example 31-11 shows the most frequent origin of the augmented triad as a chromatic chord. The augmented 5th is a chromatic passing tone moving up from the perfect 5th of a major triad. Usually, as in our example, the augmented 5th moves up to the 3rd of another major chord; this melodic progression is supported by a descending 5th in the bass. Here, the underlying progression is I-IV; V-I in major is another important possibility. Note how the augmented 5th creates a tension that makes the tonic sound like V of IV.

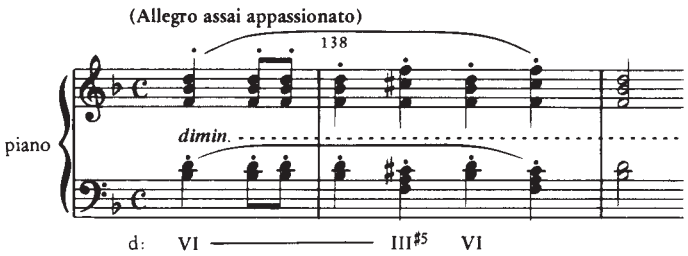
31-11 *Bizet, Carmen, final bars*



translation: It is I who killed her! Ah, Carmen!

In Example 31-12, the augmented 5th replaces the perfect 5th altogether through the familiar technique of contraction. But we hear the augmented 5th as a variant of the perfect 5th (which, incidentally, appears in the original statement of the passage).

31-12 *Mendelssohn, Piano Trio, Op. 49, IV*



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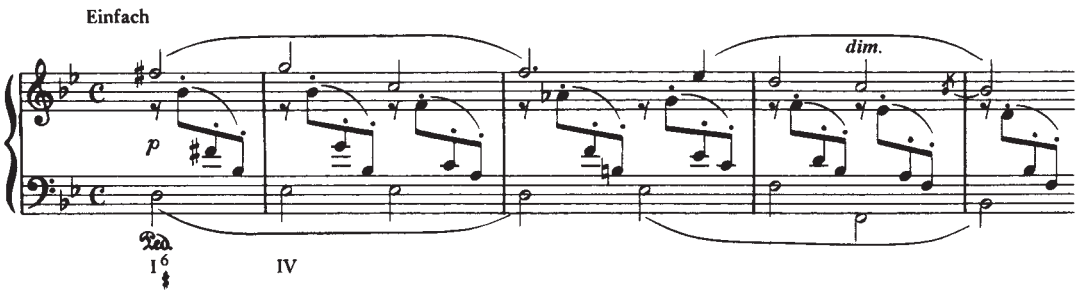
Example 31-13 is most unusual in that it contains an augmented triad at the very beginning of the piece. In this excerpt, the augmented chord is in $\frac{6}{3}$ position; it represents an altered I^6 leading to IV. The stepwise voice leading produced by the $\frac{6}{3}$ position creates a particularly smooth progression into the following chord. Augmented triads frequently appear as altered $\frac{6}{3}$'s—probably more often than as $\frac{5}{3}$'s.

31-13 *Schumann, Humoreske, Op. 20, I*



Sometimes an augmented 5th decorates a 5-6 progression above a sustained bass, thus: 5-5♯-6. Continuing the chromatic progression will produce an augmented 6th. This can be a most attractive way of moving from VI to a German $\frac{6}{5}$ as in Example 30-22.

For the most part, augmented triads result from momentary inflections of voice leading and tend to have a purely local function. In this respect, they differ from some other chromatic chords—applied chords and augmented 6ths, for example—that can enter into long-range progression. In the later part of the nineteenth century, however, some composers began to give a larger role to augmented triads. In Example 31-14, an augmented chord substitutes for the goal tonic of an authentic cadence in D♭ and leads to a new section in F♯ (enharmonically, G♭: hence, an expanded IV). In this excerpt, as in Examples 31-12 and 31-13, the augmented 5th represents a passing tone that, through contraction, replaces the 5th of a major chord.*

*Interestingly enough, the opera ends in D♭ major a few pages later. Thus, the D♭ tonic avoided in our excerpt is ultimately achieved. In this way, Wagner indicates, through musical means, that the end of the drama is not Brünnhilde's death, but the end of the gods and beginning of a new world order made possible by her self-sacrifice.

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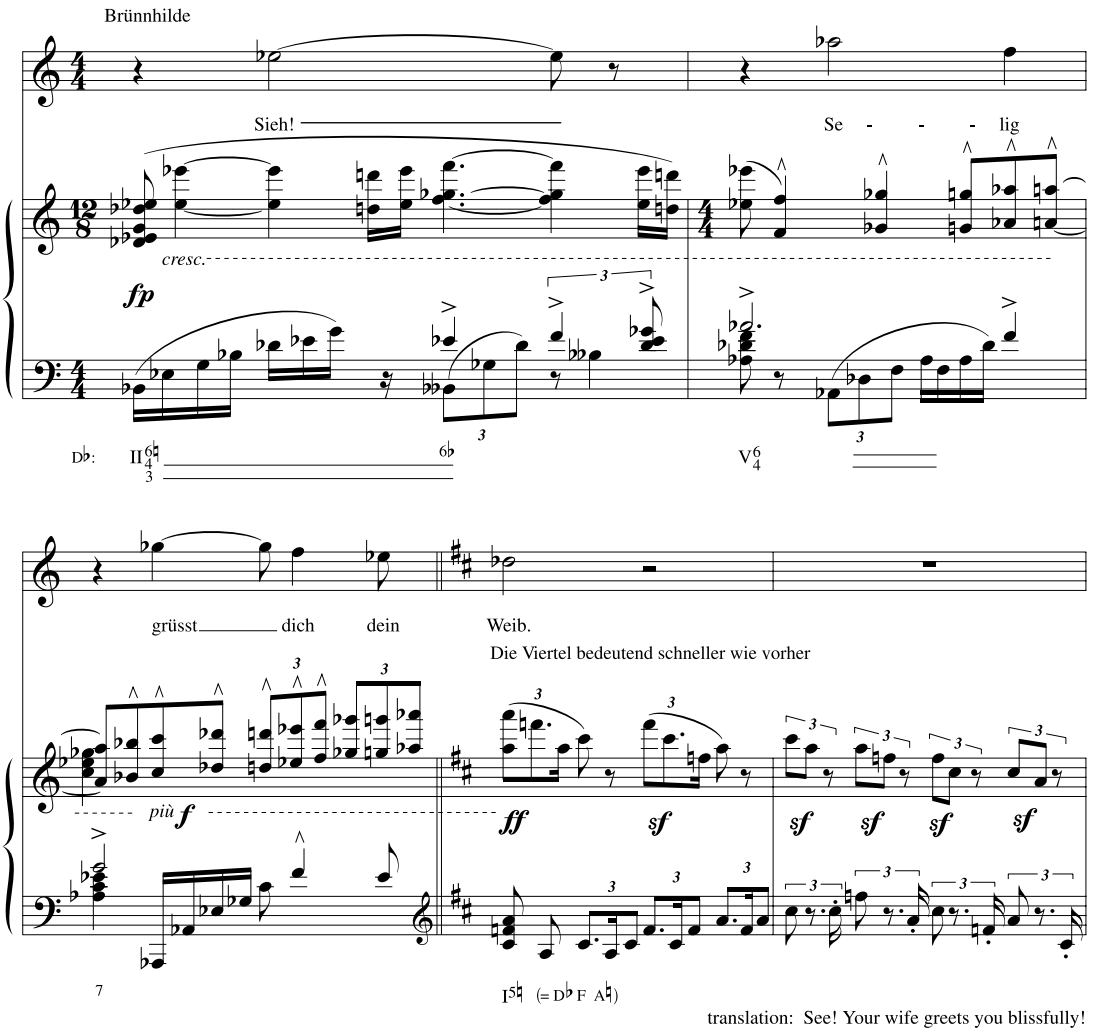
31-14 *Wagner, Götterdämmerung, Act III, Scene III**

translation: See! Your wife greets you blissfully!

8. *The Augmented 5th as a Bass Passing Tone.* Sometimes an augmented triad results from a chromatic passing tone that descends from the root of a minor triad, as in Example 31-15.

*See Appendix II for a reduction.

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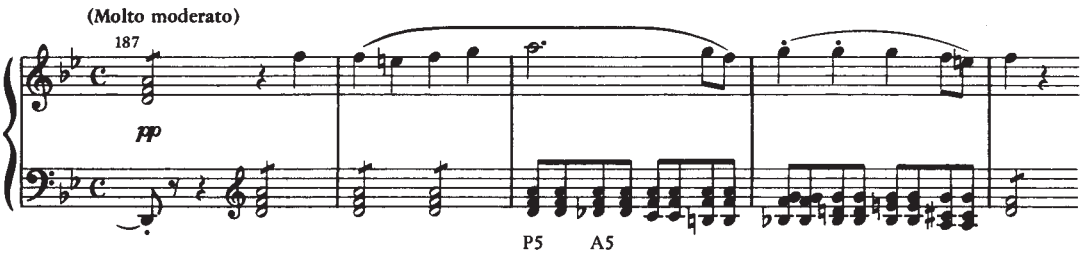
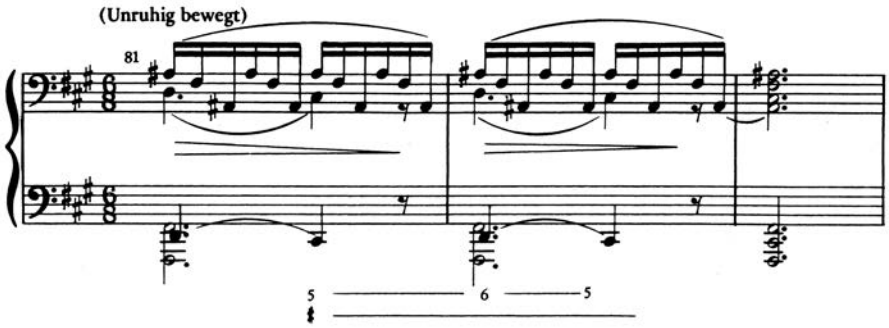
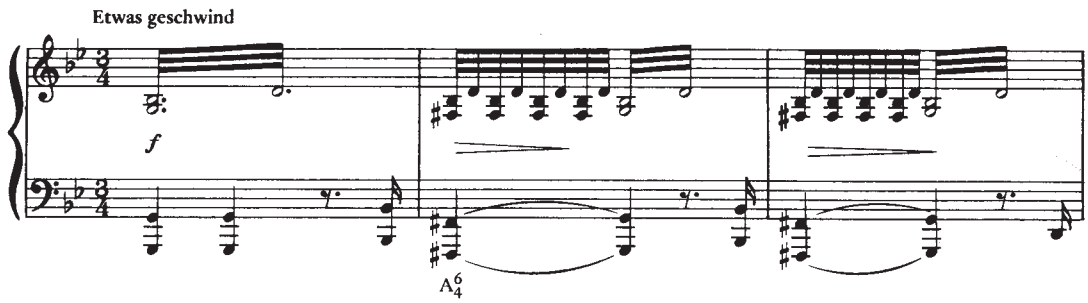
31-15 *Schubert, Piano Sonata, D. 960, I*



9. Augmented Triads from 5-6-5 Neighboring Progression. In the two excerpts of Example 31-16, momentary augmented triads—they don't really function as chords—result from very different procedures than those in earlier examples did. They are not based on chromatic passing tones. Instead, both excerpts have as an important feature a neighboring motion that produces the interval succession 5-6-5. In Example 31-16a, the succession results from motion in an upper voice (C♯-D-C♯) against a major triad; in Example 31-16b, the bass moves (G-F♯-G) and embellishes a minor triad.

31-16

(a) Brahms, Capriccio, Op. 76/1

(b) Schubert, "Der Atlas"



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Augmented triads can appear in other contexts—especially in chromatic sequences, as we shall see in the following unit.

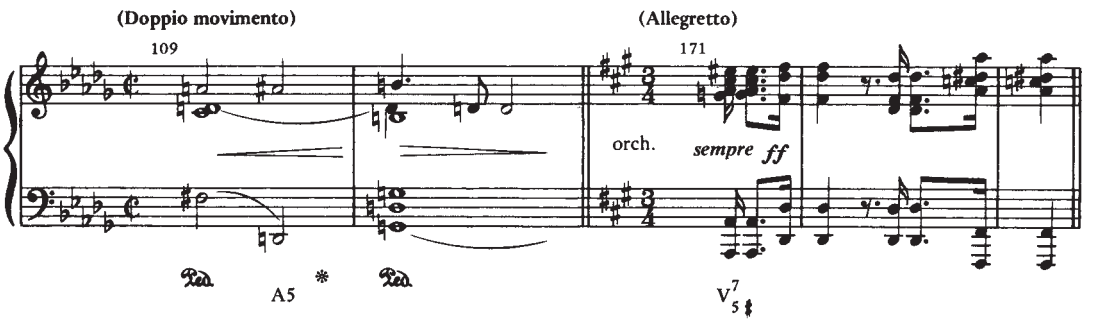
Altered Dominant Seventh Chords

10. V^7 with Augmented 5th. The same voice leading that produces most augmented triads—an augmented 5th as an upper-voice chromatic passing tone—can produce an altered V^7 if the chord contains a 7th. In Example 31-17a, the augmented 5th is literally a passing tone. Note that the bass contains both the 3rd and root of the dominant chord, the 3rd emphasized rhythmically.

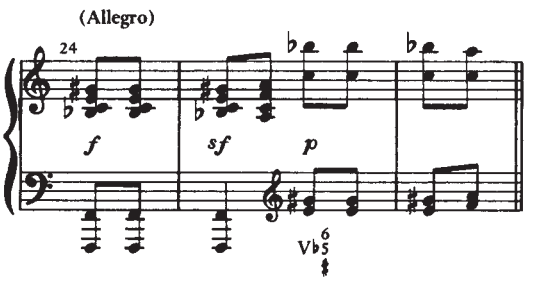
In Example 31-17b, the natural 5th of V^7 is omitted and replaced by the augmented 5th.

Because of the stepwise voice leading, the $\frac{6}{5}$ position, with the 3rd in the bass, appears frequently, as in measure 25 of Example 31-17c. The augmented 5th of altered V^7 normally occurs in the soprano, as in Examples 31-17a and b. In Example 31-17c, however, through voice exchange, the altered tone appears in an inner voice as well as in the soprano. In this excerpt, the augmented V^7 is applied to IV, as frequent a possibility for this chord as for the augmented triad.

31-17

(a) Chopin, Sonata, Op. 35, I

(b) Franck, *Symphonic Variations*

(c) Beethoven, *Diabelli Variations*, Op. 120, Var. 28



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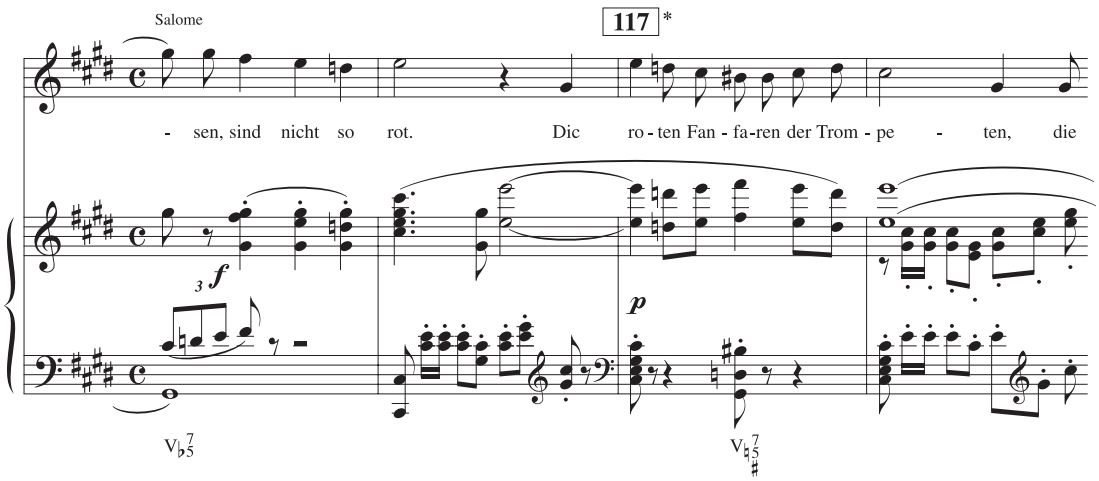
11. *V⁷ with Diminished 5th.* Much less frequently, root-position V^7 appears with a diminished 5th ($\flat\hat{2}$), as in Example 31-18. Chopin was perhaps the first composer to use this alteration, which lends to dominant harmony the characteristic tension of the Phrygian scale degree, $\flat\hat{2}$. $V^7_{5\flat}$ appears far more often in $\frac{4}{3}$ than in root position; as a $\frac{4}{3}$ chord, it functions as a French 6th resolving to I (review Example 30-38).

31-18 *Richard Strauss, Salome, Op. 54*



translation: The red fanfares of the trumpets are not as red [as your mouth.]

Common-Tone Diminished Seventh Chords

12. *A Chromatic Embellishment of I in Major.* In Example 31-19, the tonic of E major is expanded by a diminished seventh chord of neighboring function. Clearly, this is not the familiar leading-tone chord, vii°⁷; it does not even contain the leading tone. Because it contains a common tone ($\hat{1}$) with the expanded tonic, this diminished seventh chord is called a *common-tone diminished seventh*. In addition to the sustained $\hat{1}$, it contains three tones of contrapuntal origin: $\sharp\hat{2}$ as chromatic neighbor of $\hat{3}$, $\sharp\hat{4}$ as chromatic neighbor of $\hat{5}$, and $\hat{6}$ as diatonic neighbor of $\hat{5}$.

*117 is a rehearsal number.

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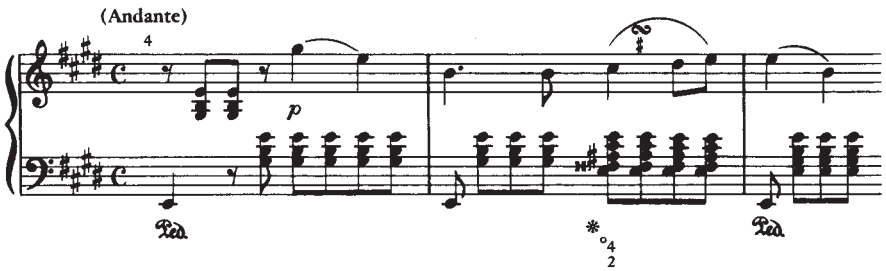
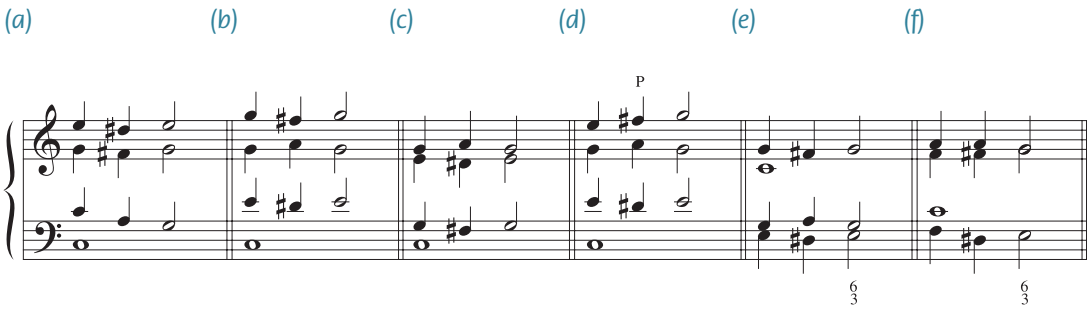
31-19 *Mendelssohn, Rondo Capriccioso, Op. 14*

Common-tone diminished sevenths are apparent, rather than true, seventh chords; they are similar to the diatonic apparent sevenths discussed in Unit 25 (review Example 25-22), but they are chromatically altered. In Example 31-19, the diminished seventh is in $\frac{4}{2}$ position. In a real $\frac{4}{2}$, the bass would function as the dissonant element, but in our excerpt, the bass is clearly a stable tone; the dissonances are created by the neighboring $\sharp\hat{2}$ and $\sharp\hat{4}$ in the upper voices. The two half-step progressions ($\sharp\hat{2}$-$\hat{3}$ and $\sharp\hat{4}$-$\hat{5}$) create a powerful resolution into the tonic, one reason why the common-tone °7 is one of the most frequently used chromatic embellishments of major triads. Example 31-20 shows some typical voice leadings. Note the possible use of $\sharp\hat{4}$ as a passing tone between $\hat{3}$ and $\hat{5}$; also note that placing $\sharp\hat{2}$ in the bass permits resolution to I^6.

31-20 *common-tone diminished sevenths*



13. *Notation.* To construct a common-tone °7, simply build a $\frac{4}{2}$ on the root of the chord to which it resolves and raise the 2nd and 4th. This gives the usual notation, with the upper voices an augmented 2nd, an augmented 4th, and a major 6th above the bass. Quite frequently, however, as in Example 31-21, a minor 3rd substitutes for the augmented 2nd. The basis of this notation is mixture between $\flat\hat{3}$ and $\natural\hat{3}$; composers often use it when mixture is an important feature of the piece. In the Brahms, the immediately preceding movement is a Scherzo in C minor; the E♭ carries some of the minor quality into the Finale.

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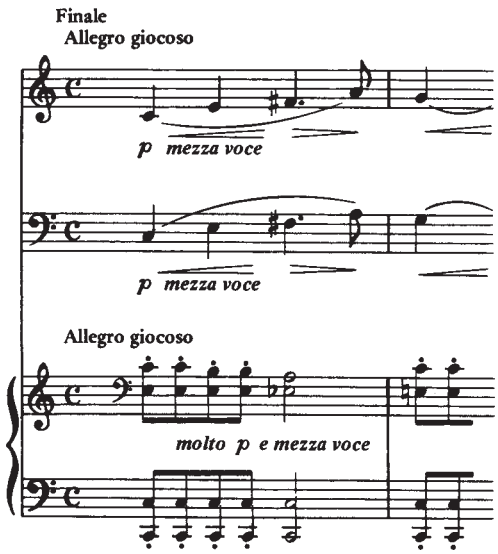
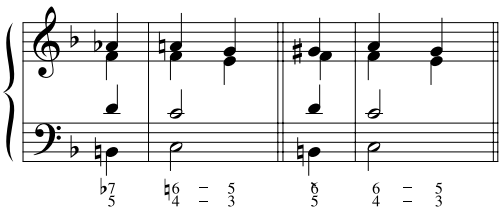
31-21 *Brahms, Trio, Op. 87, IV*

14. *Moving to a Cadential $\frac{6}{4}$.* Example 31-22 shows two possible ways to notate a diminished seventh chord on $\sharp\hat{4}$ leading to a major cadential $\frac{6}{4}$. In Example 31-22a, the °7 is notated as an applied leading-tone chord to V; in Example 31-22b, it is notated as a common-tone chord with the $\frac{6}{4}$—a nuance of notation that composers occasionally use when they wish to indicate an emphasis on the $\frac{6}{4}$.

31-22 *two notations*

(a) *(b)*



15. *Embellishing a Minor Triad.* Common-tone diminished sevenths rarely embellish minor triads. The presence of two common tones, $\hat{1}$ and $\flat\hat{3}$, weakens the contrast between the two sonorities. In addition, $\sharp\hat{6}$ does not normally function as upper neighbor to $\hat{5}$ in minor. For these reasons, common-tone °7 will decorate a minor chord only where its use fits the particular character of a passage or piece. For a most remarkable example, see Schubert's great song "Die Stadt," in which a common-tone °7 over the tonic forms part of the basic plan of the piece.

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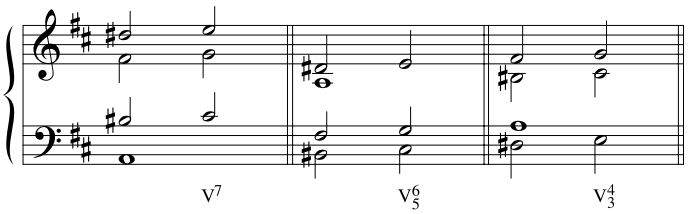
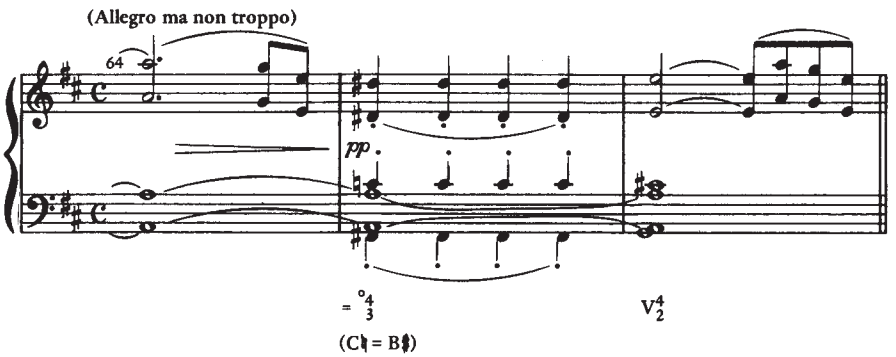
16. *Embellishing V and V^7.* Common-tone diminished sevenths can embellish V. A particularly important possibility is moving to V^7, with all the upper tones ascending a half step. Example 31-23 illustrates resolution to V^7 and shows as well possibilities of moving to inversions of V^7.

31-23 *common-tone °7 embellishing V^7*

(a) *(b)* *(c)*

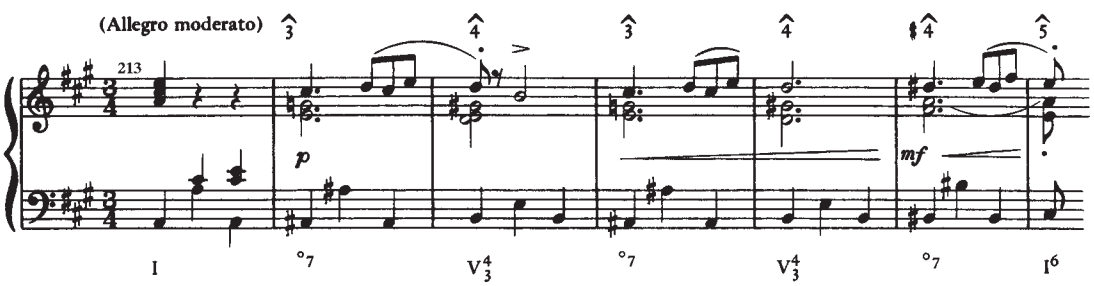


(d) Beethoven, Violin Concerto, Op. 61, I



Example 31-24 contains two common-tone °7's. The first passes between I and V$^4_3$, the second between V$^4_3$ and I^6. The progression as a whole is a chromaticized version of the familiar I-V$^4_3$-I^6; it occurs frequently in nineteenth-century music.

31-24 *Tchaikovsky, Symphony No. 5, Op. 64, III*



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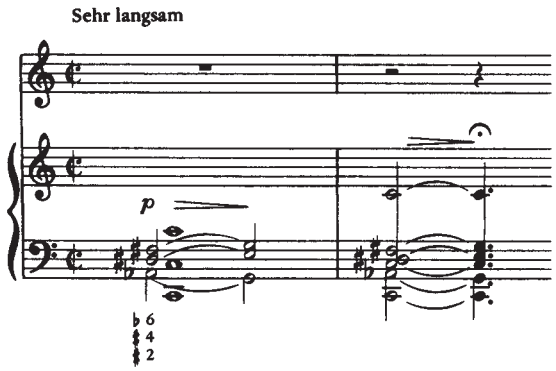
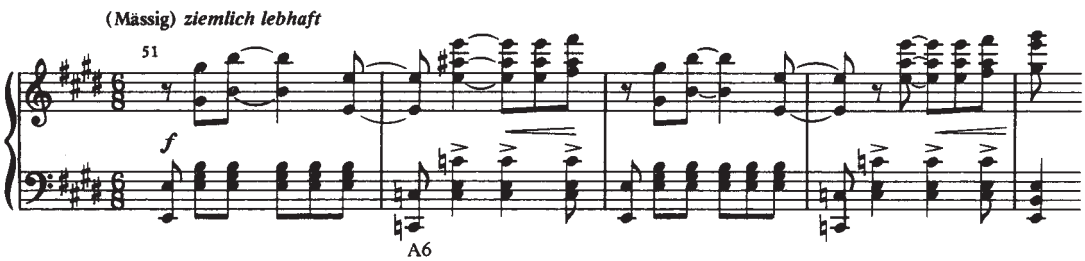
Other Chromatic Embellishing Chords

17. Common-Tone Augmented 6th Chords. From around the time of Schubert on, one frequently finds chromatic embellishing chords containing an augmented 6th or diminished 3rd. As Example 31-25 demonstrates, a common-tone augmented sixth resembles a common-tone °7 in structure and function, though it has its own characteristic sound. Also note that the interval of the augmented 6th resolves normally by expanding into an octave. But its resolution is to the 5th of the tonic harmony rather than to the root of V.

31-25 *Schubert, "Am Meer"* *(from Schwanengesang, D. 957)*



In the later nineteenth century, composers sometimes emphasized a common-tone augmented 6th (or °7) by allowing the bass to leap. Thus, in Example 31-26, the bass does not remain on E, but moves to C♮. This procedure disguises (but does not obliterate) the contrapuntal connection between the common-tone augmented 6th and the chord it decorates.

31-26 *Wolf, "Morgenstimmung"*

18. Common-Tone "Dominant Sevenths." Occasionally, a chromaticized common-tone chord appears in the guise of a dominant seventh. Mostly, as in Example 31-27, they are apparent $\frac{4}{2}$'s over a sustained tonic bass. Of all the chromatic common-tone embellishments, this one creates the most unusual effect, especially if it is emphasized by duration or accent. This is because its

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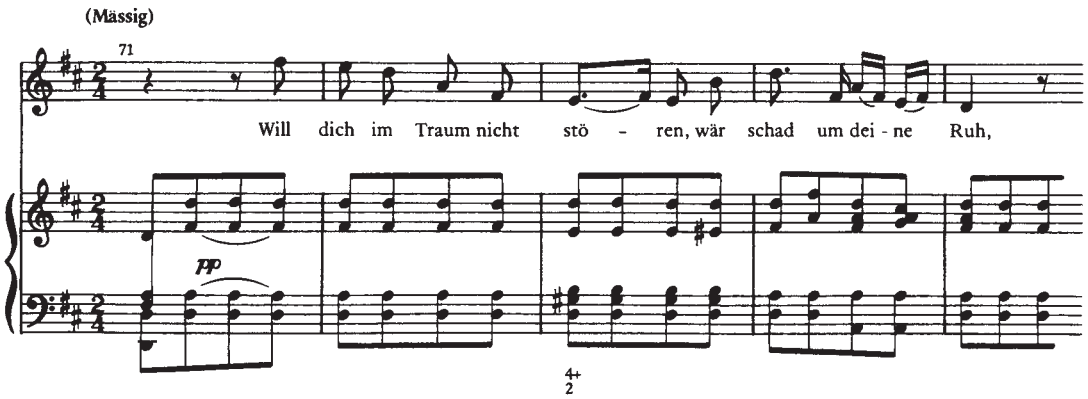
resolution—though governed by perfectly logical voice leading—is so greatly at variance with the expectations produced by its sound. In Example 31-27, the logic of voice leading is underscored by the fact that this passage is a variation of an earlier one that uses a diatonic embellishment. The unexpectedness of the apparent V^4_2 gives a most expressive emphasis to the word "stören" (interrupt). The resolution of the chord is helped by the passing E♯, which creates a fleeting common-tone $^{\circ 4}_{2}$.

31-27 *Schubert, "Gute Nacht!"* *(from Winterreise, D. 911)*

translation: I will not interrupt your dream; it would be a shame to disturb your rest.

POINTS FOR REVIEW

1. There are three types of mixture:
   a. Simple mixture: Borrowing elements from the parallel minor or major. Example: A♭-major triad as ♭VI in C major.
   b. Secondary mixture: Altering the quality of a triad without using scale degrees from the parallel mode. Example: A-major triad as VI♯ in C major.
   c. Double mixture: Applying secondary mixture to a chord resulting from simple mixture. Example: A♭-minor chord as ♭vi in C major.
2. The three types of mixture produce triads on every degree of the chromatic scale except ♯$\hat{4}$. See Example 31-10.
3. The more remote products of mixture—especially those resulting from double mixture—require preparation to function effectively. Possible types of preparation include applied chords and association with a more normal use of the altered tone.
4. Augmented triads do not function as independent harmonic entities in tonal music. Mostly they represent major triads whose 5th is displaced by an upward-moving chromatic passing tone. Some possibilities are:
   a. A5 over root movement by descending 5th, as in $V^{\sharp 5}$-I.
   b. decorating a 5-6 over a sustained bass, often leading to an A6.
   c. (less frequent) bass passing motion leading down from a minor triad.
5. Dominant seventh chords frequently have an augmented 5th leading to the 3rd of a major tonic. V^7 with diminished 5th is much less frequent.
6. Common-tone diminished seventh chords are a frequent contrapuntal decoration of

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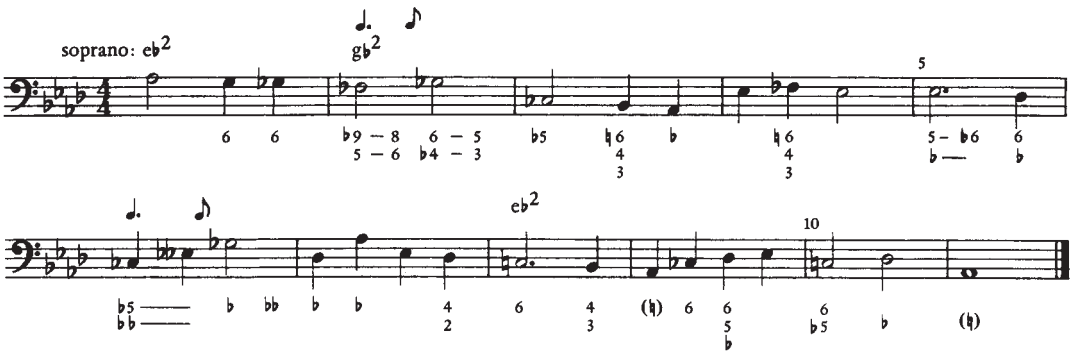
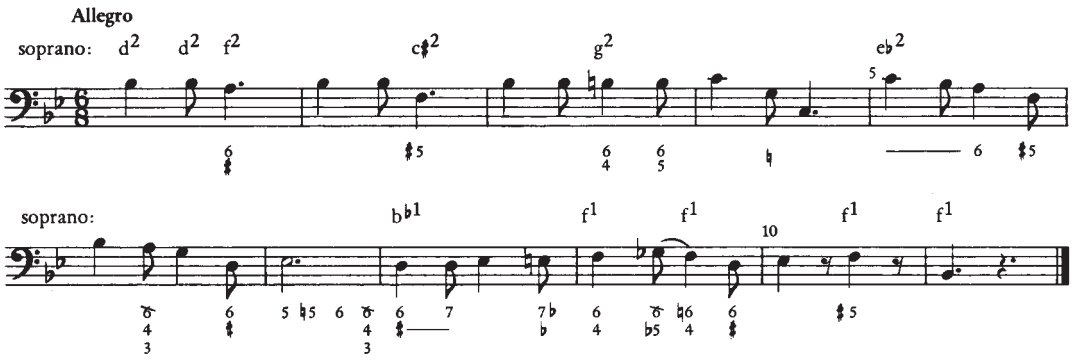
major triads and dominant seventh chords, especially I, V, and V^7. The upper tones generally function as neighbors to the 3rd and 5th (also to 7th of V^7), with the root of the main chord as the common tone.

7. Other chromatic embellishing chords include common-tone augmented 6ths and apparent dominant sevenths. They usually embellish tonic triads, with $\hat{1}$ as common tone.

EXERCISES

1. Preliminaries. Write short progressions, each in a different key, that contain the following chromatically altered chords:
   a. ♭VII in major
   b. VI♯ in major
   c. $\text{VII}^{5\sharp}_{\sharp}$ in major
   d. An augmented triad as V of IV in major
   e. $V^7_{5\sharp}$ in major
   f. $V^7_{5\flat}$ in minor
   g. Common-tone °7 decorating I in major
   h. Common-tone °7 decorating V^4_3 in major
   i. Common-tone augmented 6th decorating i in minor
2. Figured bass (for mixture).

3. Figured bass. Use augmented triads. (Keyboard style is possible.)



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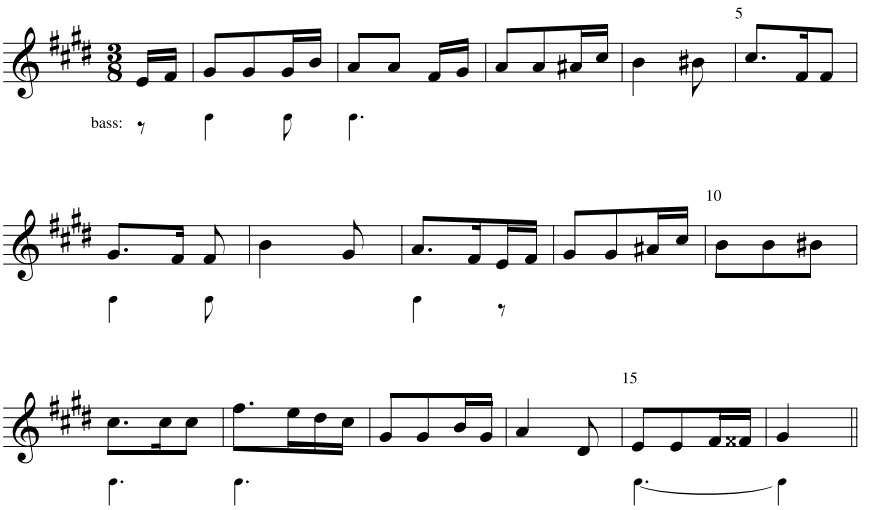
MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

4. Melody. Look for opportunities to use common-tone °7 chords and V^7 chords with augmented 5th.

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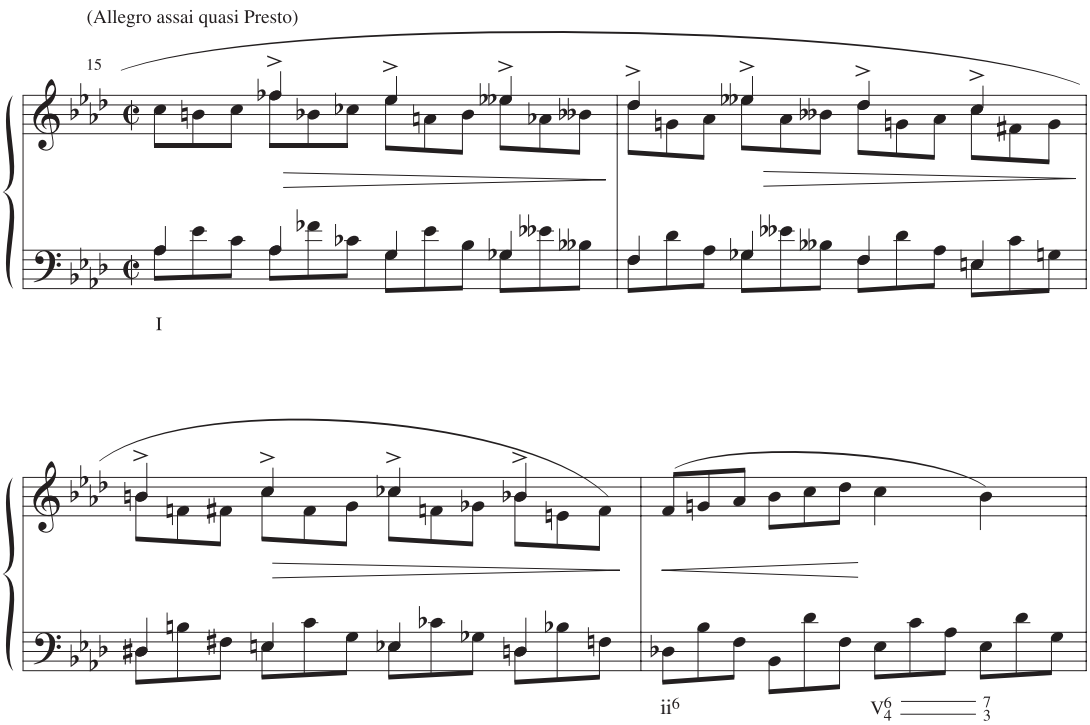
UNIT

32 Chromatic Voice-Leading Techniques

32-1

(a) Chopin, Impromptu, Op. 29

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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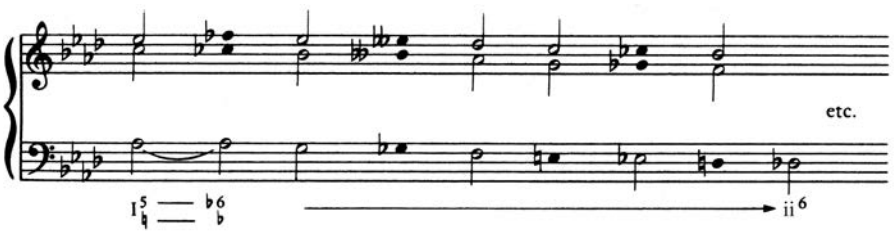
(b) reduction

Chromaticism Based on Parallel Motion

1. ***Chromatic Parallel $\frac{6}{3}$ Chords.*** In previous units, we have observed that chromatic techniques—especially mixture, tonicization, and the use of chromatic passing tones—produce altered chords of various kinds. Applied to larger contexts, these same techniques can give rise to entire chromatic passages. Many of these passages can be understood as chromatic transformations of familiar diatonic procedures. Thus, we might encounter chromatic parallel $\frac{6}{3}$ chords, chromaticized 7-6 suspensions, chromatic 5-6 syncopes, and so forth. To begin to understand such passages, we must be able to perceive both the underlying diatonic progression and the chromatic elements that modify it.

   In Example 32-1, for instance, the harmonic framework is the simple diatonic progression I-ii^6-V^7. Filling in the space between the I and the ii^6 is a series of descending parallel $\frac{6}{3}$'s. The passage is similar to those discussed in Unit 19 in all respects except a most important one—it is chromatic instead of diatonic. The reduction following the excerpt (Example 32-1b) shows its diatonic basis (half notes) and its chromatic elaboration (black noteheads). We can readily see that the chromaticism of this passage involves procedures already familiar to us: specifically, the use of mixture and of chromatic passing tones. The 5-6 motion that introduces the descending $\frac{6}{3}$'s is altered by mixture so that the first $\frac{6}{3}$ is expressed as an F♭-major chord instead of an F-minor one. And the other chromatics can be understood as passing tones.

   One other aspect of this excerpt deserves attention, for it is characteristic of all sorts of chromatic passages—not just those based on parallel $\frac{6}{3}$'s. Note that all the $\frac{6}{3}$ chords are *major* except for the goal ii^6. Obviously, if a succession of chords is parallel and chromatic, all the chords will have the same quality. The major triad represents a preferred sonority, so composers have tended to favor it in such passages.

2. ***Chromaticized 7-6 Suspension Series.*** A frequent diatonic elaboration of parallel $\frac{6}{3}$'s is a chain of 7-6 suspensions. Such a suspension series can be further elaborated chromatically, mostly by means of chromatic passing tones. The two excerpts of Example 32-2 show different applications of this technique. In the Bach excerpt, chromatic passing tones in the bass coincide with the suspended 7ths; in the Haydn excerpt, both the middle voice and the bass are inflected chromatically. The full texture of the Bach allows the 7ths to be reinforced by 5ths above the bass; the Haydn is written in three voices. In the Bach, the

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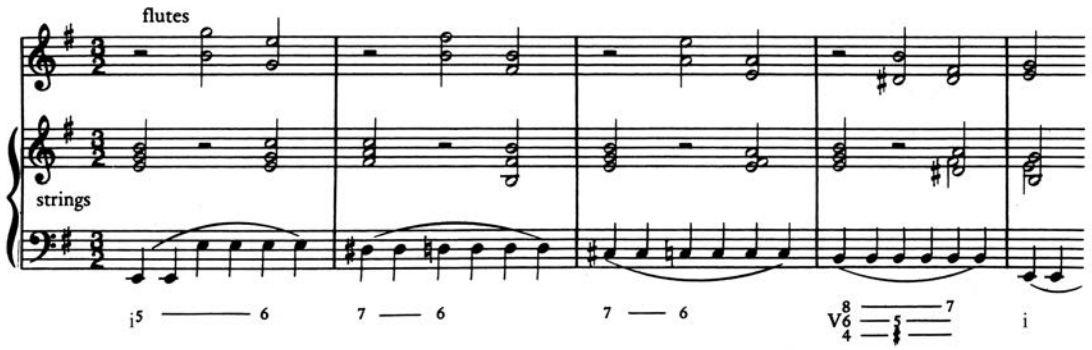
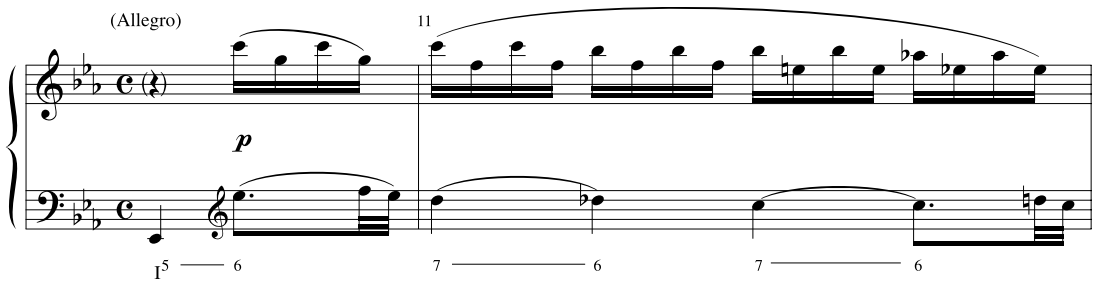
descending bass moves chromatically from i to V—a favorite device of Baroque composers, especially if the *affect* (mood or emotion) of the piece is one of grief. You might remember for your own written work that using 7-6 suspensions can be a most effective way of harmonizing a descending chromatic bass.

In passages like those in Example 32-2, the 7ths are suspensions decorating $^{6}_{3}$'s; they are *not* seventh chords. This means that the lower tone of the 7th does not function as a root. Realizing this fact can prevent serious misunderstandings about the harmonic direction of such passages. In bar 11 of the Haydn, for example, it would be nonsensical to interpret the 3rd beat as containing a V^7 of F moving "irregularly" to an $A\flat^{6}_{3}$; the 7th on C arises out of voice leading alone and has no harmonic function whatsoever.

32-2

(a) Bach, Crucifixus *(from Mass in B minor, BWV 232)*

(b) Haydn, Piano Sonata, Hob. XVI/52, I



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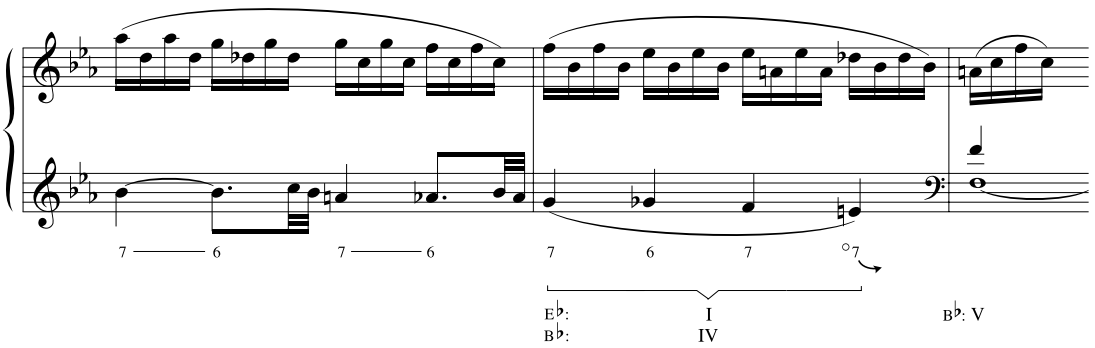
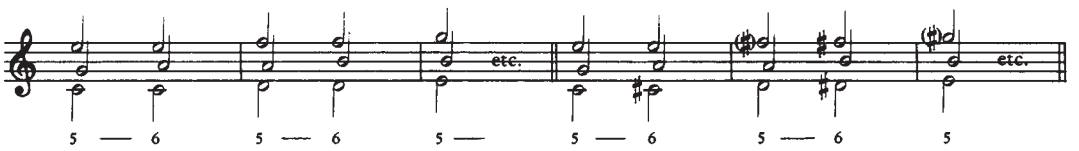


3. *Chromaticized Ascending 5-6 Series.* A number of different chromatic passages can be derived from the familiar ascending 5-6 progression (Example 32-3a); note that all of the patterns represent chromaticized models, because all have ascending stepwise bass lines and alternate $\frac{5}{3}$ and $\frac{6}{3}$ chords. For example, we can insert chromatic passing tones in the bass, transforming the 6's into applied chords (Example 32-3b); in keeping with the preference for major triads in chromatic textures we can express the $\frac{5}{3}$'s on D and E as major chords. Adding chromatic passing tones alternately to the middle voice and the soprano (Example 32-3c) creates momentary augmented triads on the weak beats. Using the same tones (or their enharmonic equivalents), but aligning them differently (Example 32-3d) gives us a new progression—one in which each step of the chromatic scale in the bass supports a 5-6 motion. In this new progression, the 6's are augmented triads that serve as leading-tone chords to the major $\frac{5}{3}$'s. Here—and in any progression that contains two leading tones within each whole step—enharmonic transformation is required. In Example 32-3d, bar 2, D♭ is transformed to C♯ to make it a leading tone to the following D♮. Other notations might be possible—for example, C♮-B♯-C♯ in bars 1–2. Even if one did not notate the enharmonic at all, perhaps writing the bass line as C♮-C♮-D♭-D♭-D♮ (bars 1–3), the enharmonic relationship would still be inherent in the progression, though not expressed in its notation.

32-3 *ascending 5-6 series*

(a) *(b)*



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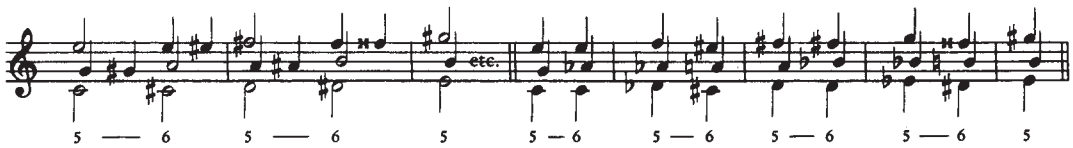
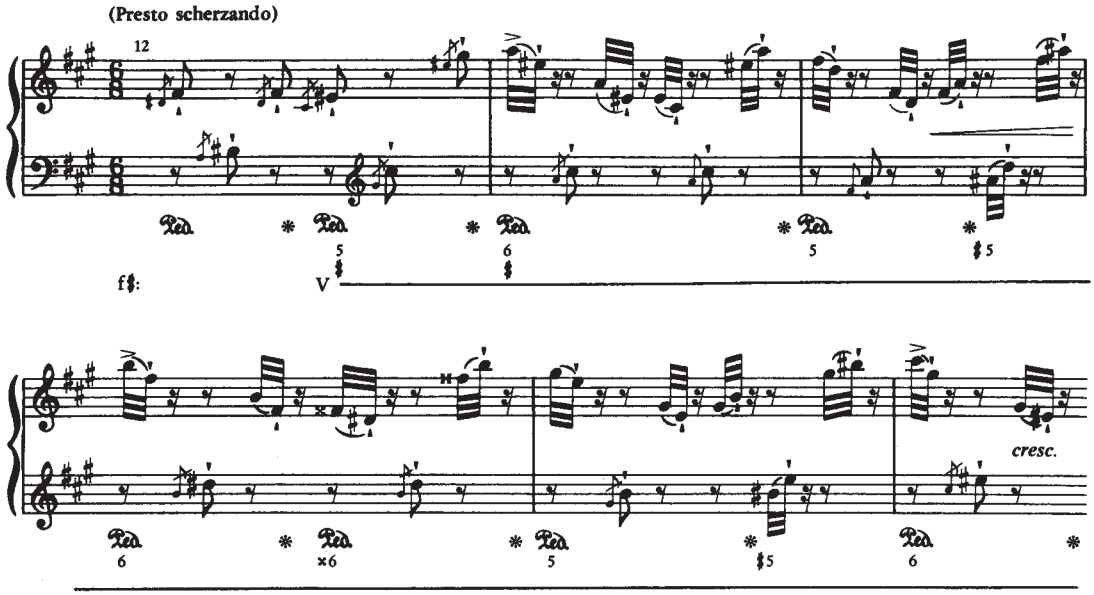
(c) (d)

Examples 32-4 and 32-5 contain excerpts from the literature based on chromaticized 5-6's. Example 32-4 resembles Example 32-3c except that it moves within dominant harmony—between V and V^6 of F♯ minor. Example 32-4c, a reduction of the Verdi passage discussed in Example 29-19, also exhibits augmented triads resulting from chromatic passing tones; in this sequence, however, applied $\frac{6}{5}$'s lead to the triads. The broken ties in the reduction indicate that the preparation of the sevenths occur indirectly in another voice (but in the same register). The more characteristic upper-voice pattern—illustrated in Example 26-33c—consists of an ascending third followed by a descending step. Example 32-5 is very much like Example 32-3d except for the use of a minor triad as goal chord. In Example 32-5, note the parallel 10ths between the bass and the emphasized soprano tones; parallel 10ths are as important an organizing element in chromatic textures as in diatonic ones.

32-4 *chromaticized 5-6's*

(a) Liszt, *Gnomenreigen*



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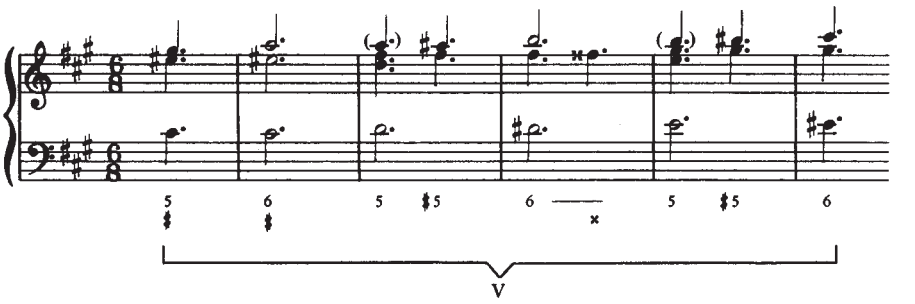
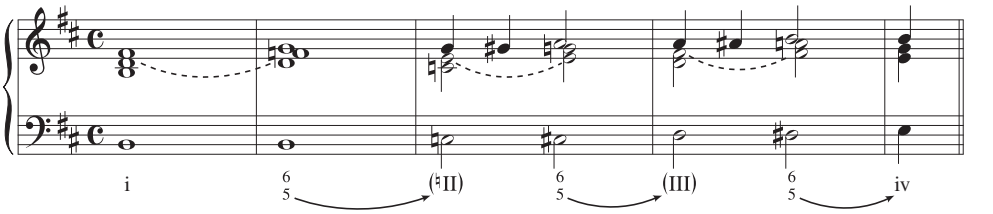
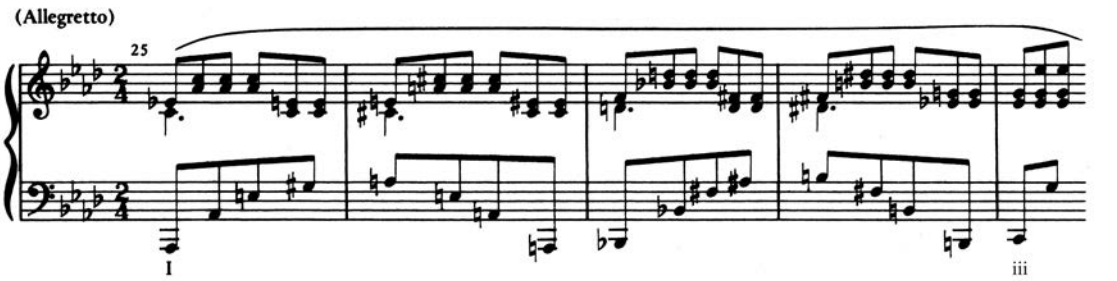
(b) reduction



(c) reduction, Verdi, "Son giunta!" *(from La Forza del Destino, Act II)**



32-5 *Chopin, Nouvelle Etude* No. 2

Another derivation from the ascending 5-6 progression is shown in Example 32-6. As in the Chopin excerpt and in Example 32-3d, 5-6's occur on each chromatic step, only now the 6's are expressed as root-position applied dominants.

*Review Example 29-19.

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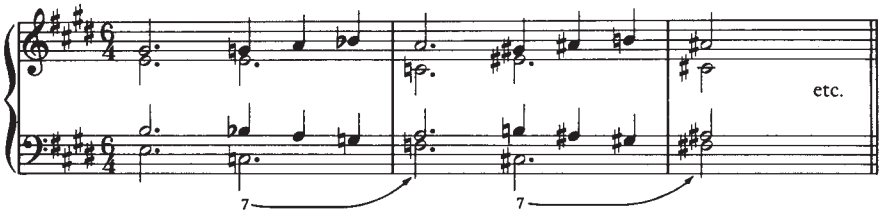
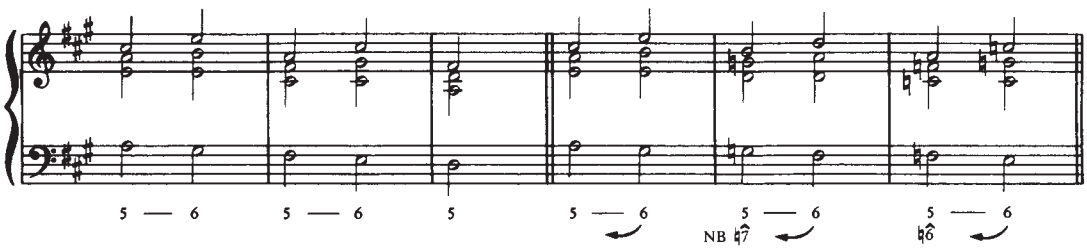
32-6 *derived from chromaticized 5-6*

4. *Chromaticized Descending 5-6 Series.* We are familiar with the 5-6 progression, repeated sequentially in 3rds over a descending diatonic scale (Example 32-7a). Sometimes one encounters a 5-6 progression repeated sequentially in whole steps over a descending *chromatic* scale (Example 32-7b). In this progression, the chromaticism results, in part, from tonicization, for the $\frac{6}{3}$'s are applied dominants to the chords that precede them. If the progression begins on I in major (its usual starting point), there is a strong impression of mixture as well, for the emphasized chords following the tonic belong to the parallel minor. Notice that the progression in Example 32-7b, though chromaticized, is still based on the diatonic model of the descending 5-6 sequence; the bass descends by step, with every other chord occurring in $\frac{6}{3}$ position.

32-7

(a) diatonic descending 5-6 *(b) chromatic descending 5-6*



The feeling of mixture is very strong in Example 32-8, an excerpt drawn from a piece that mixes major and minor in a particularly dramatic way. This excerpt and Example 32-7b demonstrate a curious feature of descending chromatic 5-6's. A progression descending from I would normally have V as its first goal. But with this progression, V cannot be reached without breaking the sequence, for the third statement arrives at $\hat{5}$ in the bass with a $\frac{6}{3}$ chord above it. Note that Schubert stops the sequence on ♭VI (bar 19) and moves on to a $\frac{6}{4}$, the function of which is not easy to determine. We regard it as a consonant $\frac{6}{4}$ that continues the tonic harmony at the beginning of the phrase and is connected with the initial I by the melodic figure D-E-D, which recalls the opening motive.*

*Were it not for the fact that the first violin brings in an important melodic idea with the d^2 of bar 20, one would be inclined to read the $\frac{6}{4}$ as passing to IV. Furthermore, when the theme is repeated in the cello (measures 24–33), the corresponding place has a root-position chord.

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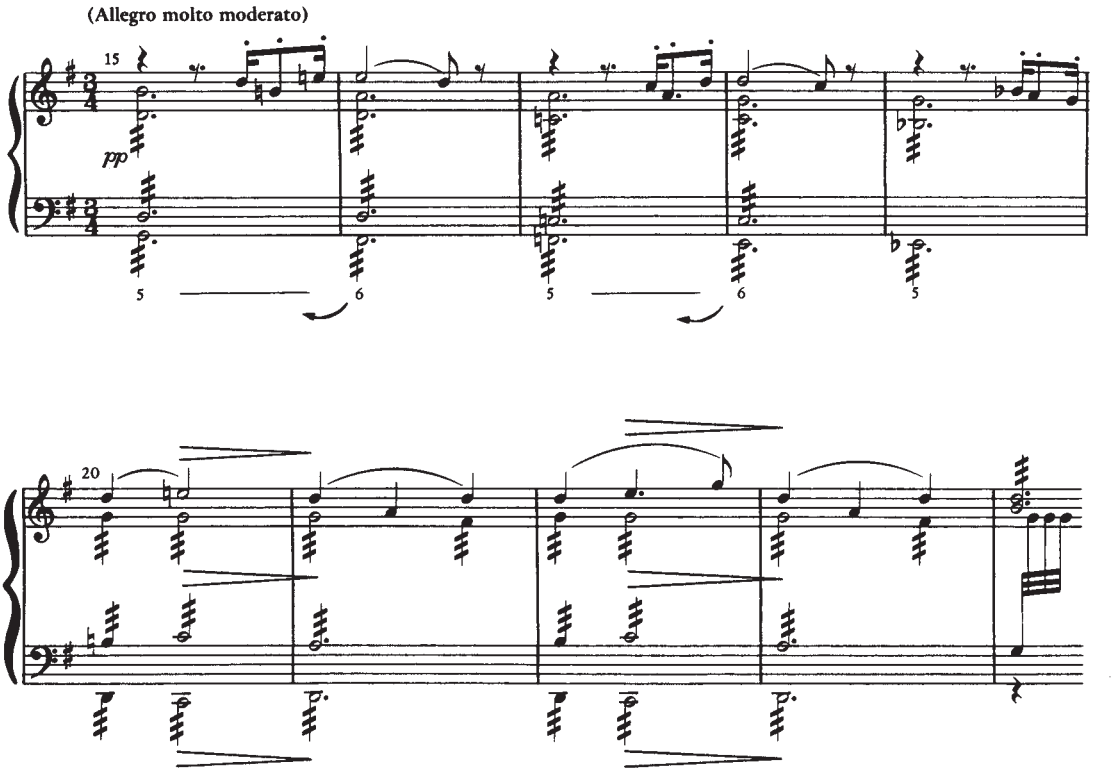
32-8 *Schubert, String Quartet, D. 887, I*

5. *Descending Sequences with Augmented 6ths.* Example 32-9 illustrates a sequential technique that occurs frequently in nineteenth-century music. Augmented 6th chords connect major triads over a descending chromatic scale-segment. Parallel 10ths, usually between outer voices, are often a feature of such progressions, and they occur prominently here. Note that we have interpreted the first chord of bar 24 as an E-major triad that becomes an augmented 6th; the reason is that the V of bar 23 leads the listener to hear an E-major tonic at the downbeat. The chords that begin bars 25 and 26 receive no such preparation and are heard solely as augmented 6ths. Incidentally, the triads to which the first two augmented 6ths resolve function as passing chords; they have no harmonic meaning as dominants. But the cumulative effect adds to the power of the final resolution, which, this time, *is* to a dominant.

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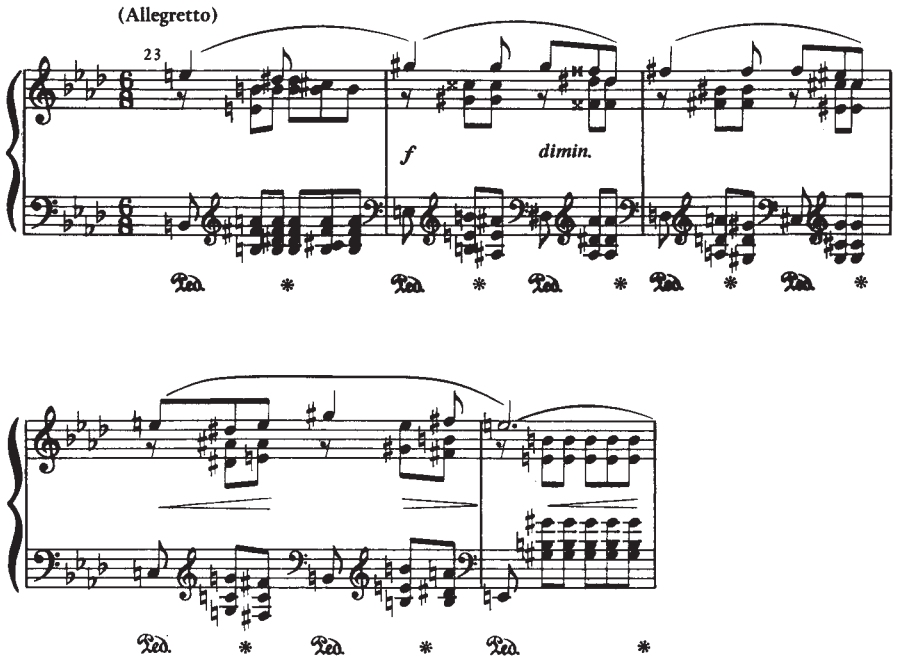
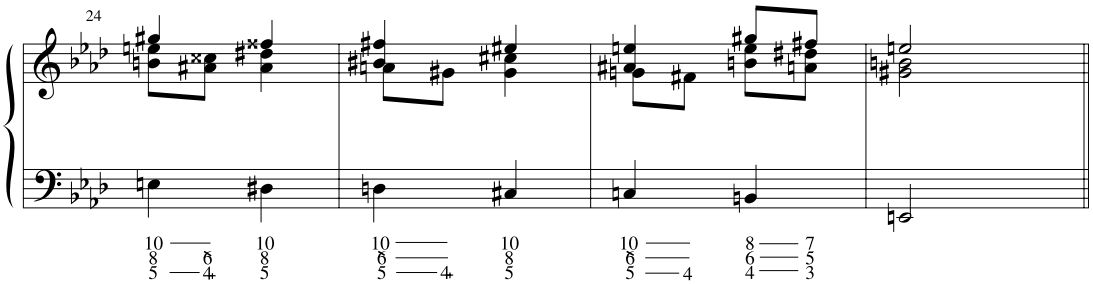
32-9

(a) Chopin, Prelude, Op. 28/17

(b) reduction



6. Consecutive Diminished Sevenths—Descending. A series of consecutive diminished seventh chords can form a passing motion between the beginning and goal chords of a larger progression. Because of their instability, diminished sevenths impart a far greater degree of tension than do parallel $\frac{6}{3}$ chords. In Example 32-10, the °7's help to connect a tonicized III with a goal V. Note that some of the bass tones are written as grace notes; they are, nonetheless, main tones, not decorations.

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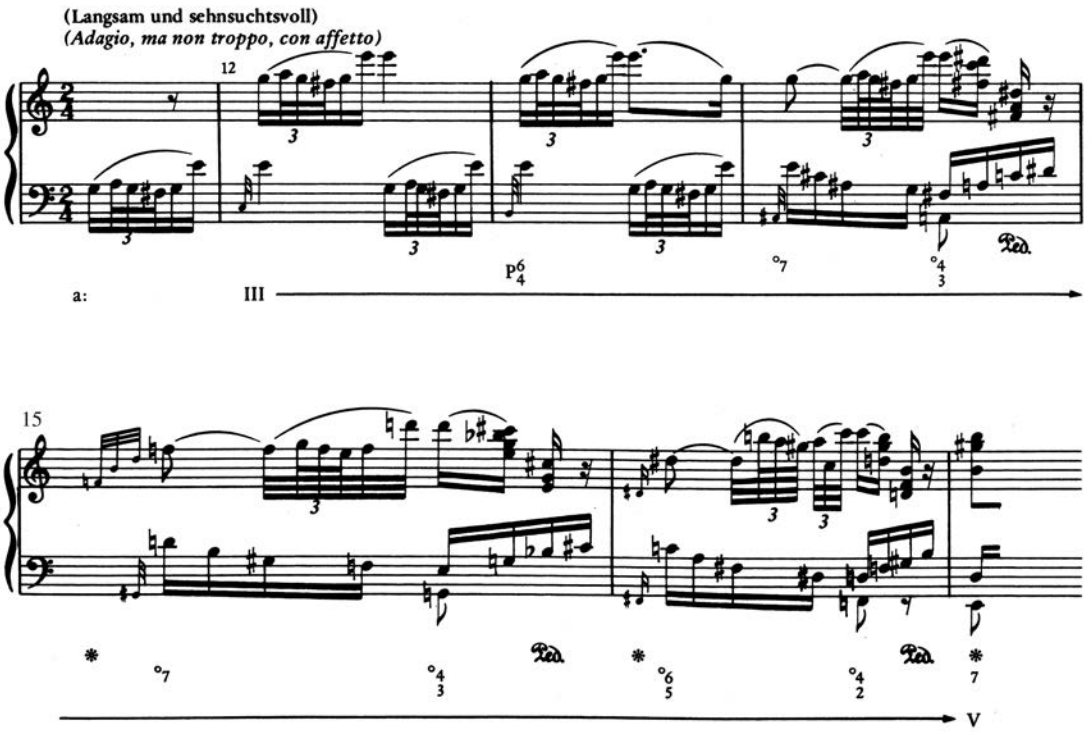
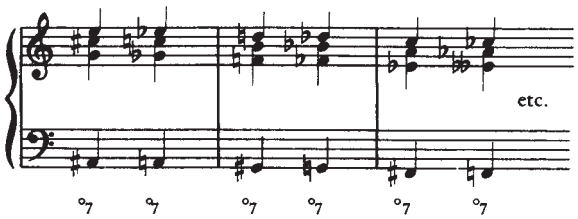
32-10 *Beethoven, Piano Sonata, Op. 101, III*

In writing consecutive °7's—especially if the larger context is diatonic—composers tend to avoid using accidentals that are remote from the key. This means that such a passage will not normally contain just a single position of °7. If Beethoven had continued to write root-position diminished sevenths, the resulting chord progression would be like that of Example 32-11—a most unsightly notation for a progression in A minor.

32-11 *incorrect notation*



But there is also a deeper reason for Beethoven's notation. As Example 32-12 shows, the alternation of °7 and $^{\circ}\frac{4}{3}$ permits the 7th of each chord to resolve normally. It also conveys the connection between such a series of consecutive °7's and a passage of interlocking applied dominant $\frac{6}{5}$'s and $\frac{4}{2}$'s (Example 26-29)—a connection based on the relationship between positions of °7 and inversions

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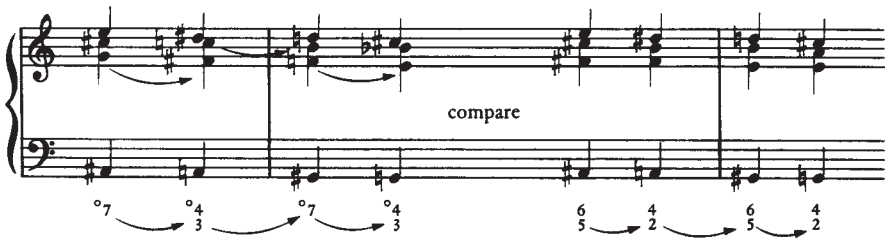
of V^7. The pairing of °7 and $^{\circ 4}_{3}$ also reflects the articulation of the passage into groups of two chords each. In bar 16, Beethoven changes the notation to point to the coming dominant: he uses a D♯ rather than an E♭ and a G♯ instead of an A♭. These changes produce the succession $^{\circ 6}_{5}$-$^{\circ 4}_{2}$.

32-12 *preferred notation*



The two successions that occur in the Beethoven example—alternating °7's and $^{\circ 4}_{3}$'s or $^{\circ 6}_{5}$'s and $^{\circ 4}_{2}$'s—represent the normal notation for such passages, and both represent chromatic variants of the descending 5th sequence with seventh chords.

7. *Consecutive Diminished Sevenths—Ascending.* Extended passages of consecutive ascending °7's occur comparatively infrequently. A progression rising chromatically does not permit a normal downward resolution of each 7th. In addition, the rising progression lacks the association with interlocking applied dominants that adds to the directional quality of the descending progression. There are two reasons that ascending °7's appear at all in tonal music. First, the diminished 7th interval is enharmonically equivalent to a major 6th; furthermore, if the surroundings are not diatonic, the listener cannot know whether a given interval is in fact a d7 or M6. This ambiguity makes it possible to postpone resolution until the end of the series is reached. Second, as the arrows in Example 32-13 demonstrate, the progression gives the impression that the diminished 5ths above the bass resolve. In this example, the rising bass develops a cumulative leading-tone tension that is not dispelled until the final °7 resolves to the tonic. Bach's notation in this passage follows two principles. He avoids accidentals remote from G major or E minor, and he always writes the uppermost interval of each chord as a minor 3rd (rather than an augmented 2nd) to permit the interpolation of a passing tone.

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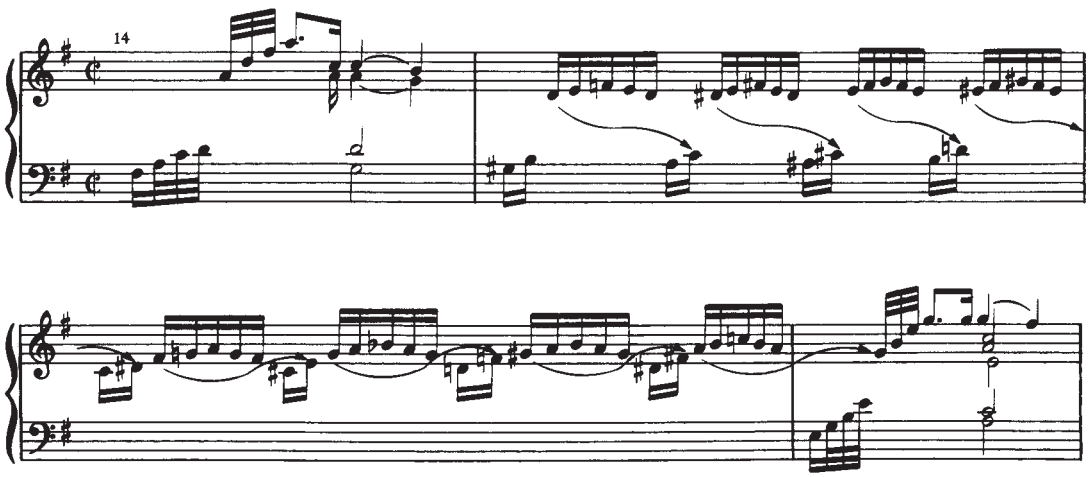
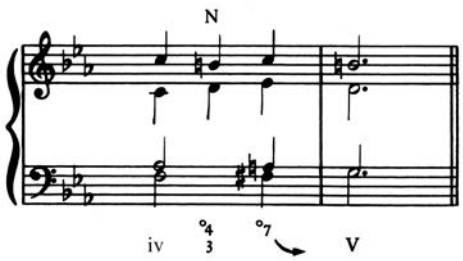
32-13 *Bach, Toccata (from Partita No. 6, BWV 830)*



8. ♭$\hat{4}$-♯$\hat{4}$ *Supporting °7's.* An applied °7 on ♯$\hat{4}$—one of the most important intensifications of V—is itself often preceded and intensified by another °7 on ♭$\hat{4}$. This represents by far the most frequent and characteristic usage of consecutive rising °7's. The first °7 is in $\frac{4}{3}$ position and usually comes from a IV (iv), or a ii (ii°) in first inversion (Example 32-14). As the example demonstrates, the °7 on ♭$\hat{4}$ is an apparent $\frac{4}{3}$, rather than a true seventh chord; it results from tones of figuration leading from the subdominant to the applied chord.

32-14 *°$\frac{4}{3}$ over $\hat{4}$*

In Example 32-15, the °7 on B♮ does not literally come from IV or ii. Nevertheless, the contour of the bass line, with its characteristic leap from $\hat{1}$ down to $\hat{4}$ strongly suggests that the latter has a cadential function (supporting IV or ii) and that B♮ is a passing tone. And, as the reduction points out, the chord on B♭ represents a ii$^{ø}\frac{6}{5}$ with the 5th above the bass—F—displaced by the neighboring E♮. Progressions like this one—with °$\frac{4}{3}$ standing for IV or ii—are by no means rare.

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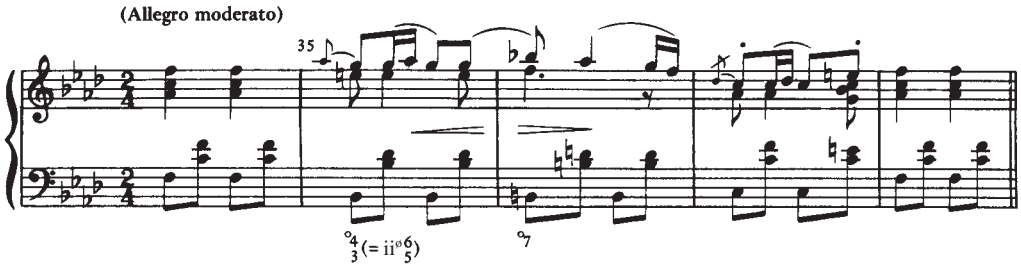
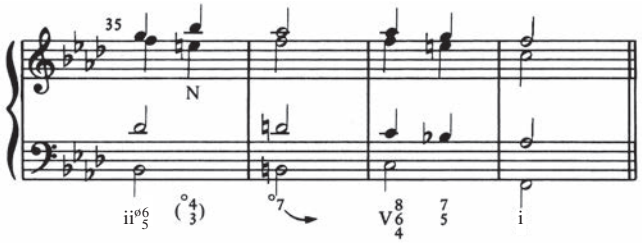
32-15

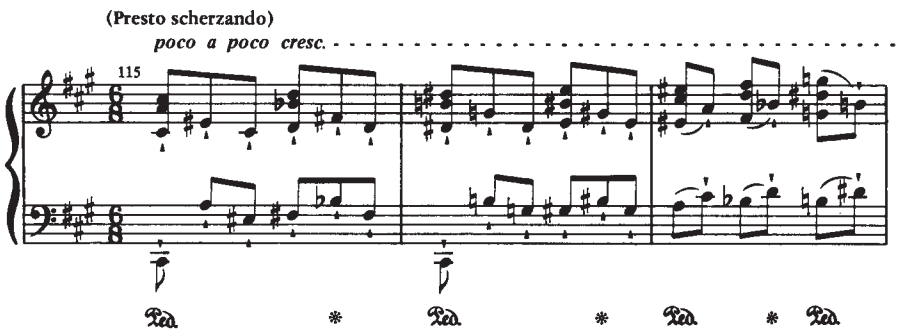
(a) Schubert, Moment Musical No. 3, D, 780



(b) from



9. *Consecutive Augmented Triads.* Like the diminished seventh chord, the augmented triad is a tonally ambiguous formation. Its inversions sound the same as the root position because its tones divide the octave into equal, or enharmonically equivalent intervals—two major 3rds and a diminished 4th. Outside of a diatonic context, therefore, the listener cannot determine which tone of the chord is dissonant and cannot assign a specific direction to the chord. In the later nineteenth century, some composers—especially Liszt—took advantage of the ambiguity of this sonority and made it the basis of transitional passages in parallel motion. Such passages occur in both ascending and descending direction, but the former predominates, probably because the upper tone of an augmented 5th tends to move up. In Example 32-16, Liszt avoids accidentals too remote from the key of F♯ minor. The passage as a whole expands V.

32-16 Liszt, *Gnomenreigen* (compare Example 32-4)

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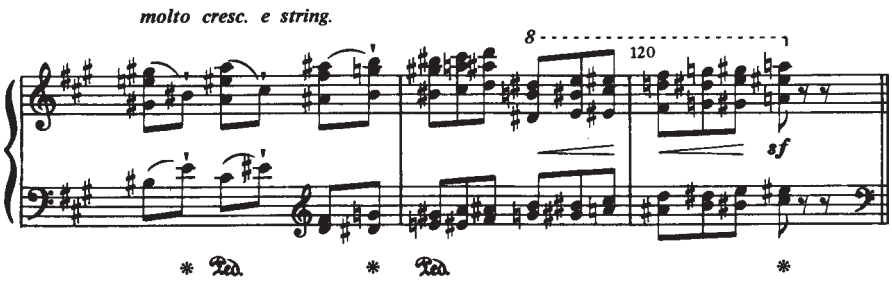
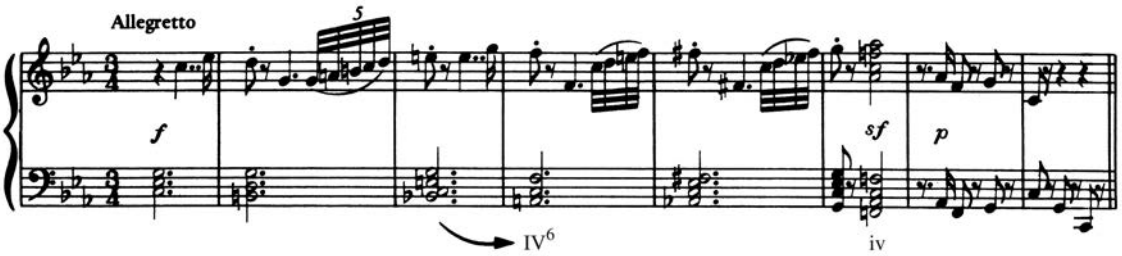
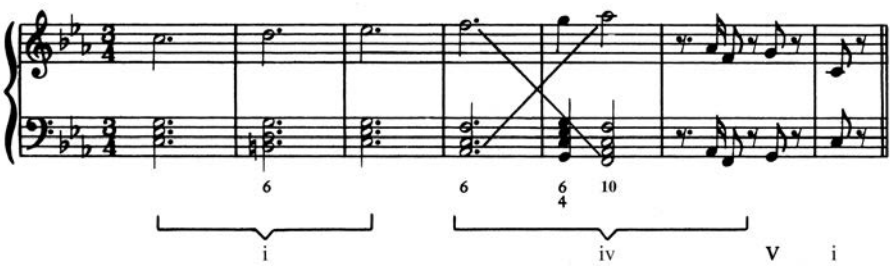

Chromaticism Based on Contrary Motion

10. Motion within a Single Voice Exchange. Contrary motion within the voice exchange 6-10 (or 10-6) forms the basis for a number of important chromatic progressions. Example 32-17 has, as a very prominent feature, contrary motion between the bass and the soprano. In the harmonic framework, the subdominant is extended by a chromaticized voice exchange. Within the expanded subdominant, we hear the following sonorities: IV^6 (on $\sharp\hat{6}$), a German $\frac{6}{5}$ (on $\flat\hat{6}$), a C-minor $\frac{6}{4}$ (on $\hat{5}$), and iv (on $\hat{4}$). To see how these sonorities function, look at Example 32-17b, which relates the chromatic passage to its diatonic basis. The kernel of the expanded iv is a progression from iv^6 through a passing $\frac{6}{4}$ to $iv\frac{5}{3}$—a technique familiar to us from Unit 20. In the score, the major IV^6 (on A♮) and the augmented 6th (on A♭) result from chromatic passing tones in the outer voices.

32-17

(a) Beethoven, Thirty-Two Variations, Theme

(b) reduction



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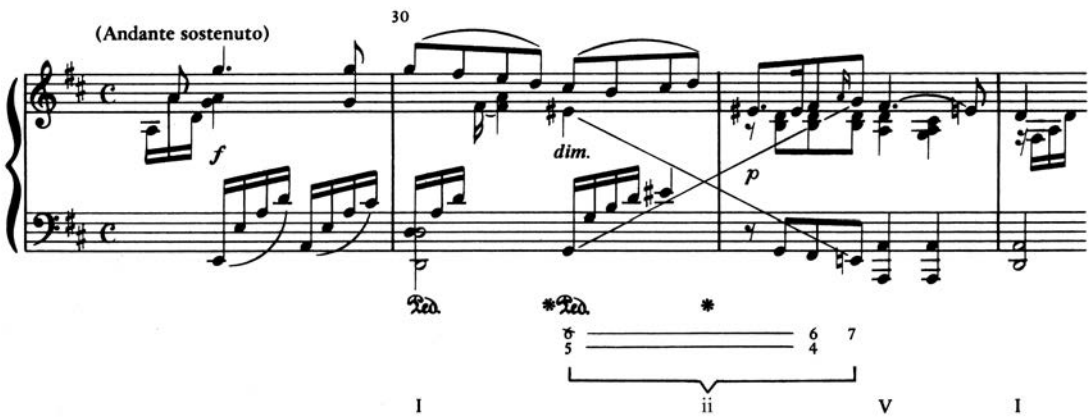
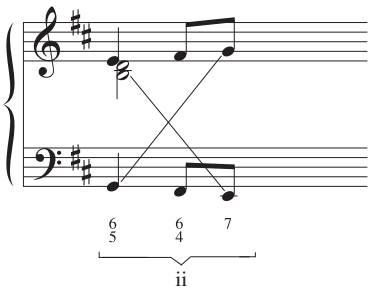
You will note from bars 5 and 6 of Example 32-17a that the voice leading of the German $\frac{6}{5}$ through the passing $\frac{6}{4}$ is identical with that of a German 6th to a cadential $\frac{6}{4}$. To understand passages like the Beethoven theme, you have to look beyond the progression from one chord to the next and try to grasp the larger direction. The same is true in Example 32-18, where another progression from a German $\frac{6}{5}$ to a $\frac{6}{4}$ might seem to indicate an imminent cadence in B minor. But the context is one of D major, not B minor, and the German $\frac{6}{5}$ is part of a most unusual and beautiful voice exchange within ii^7 of D.

32-18

(a) Mendelssohn, Songs Without Words, Op. 84/4



(b) diatonic background



11. *The 6-10 Voice Exchange and Some Writing Techniques.* The possibilities for chromatic progressions within the 6-10 (or 10-6) voice exchange are far too numerous to catalog here, but we shall demonstrate some of the most important. The Beethoven passage in Example 32-17, for example, involves a *minor 6th–minor 10th* voice exchange in the expansion of the subdominant; notice that the upper voice moves entirely by half step but the bass does not (the final interval is a whole step). The *minor 6th* and *major 10th* form the most favorable framework for chromatic motion because the succession m6-P8-M10 can be completely filled in with chromatic passing tones (Example 32-19a). This progression is fully reversible; that is, the two moving voices can begin with the

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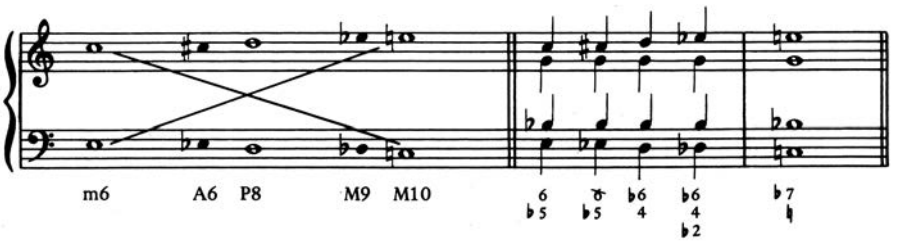
6th and move outward to the 10th, or they can start with the 10th and move inward. Usually this motion is deployed between V^6_5 and the root-position V^7 or its enharmonic equivalent—the German 6th (Example 32-19b). Note that the inner voices remain stationary.

32-19 *m6-M10 voice exchange*

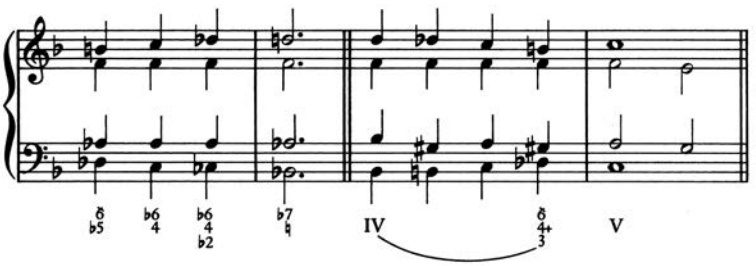
(a) *(b)*



A segment of the previous progression—one that moves between *augmented 6th* and *major 10th*—is another possibility (Example 32-20a). Starting on the 10th permits an elaboration of the IV–German $\frac{6}{5}$ (or $\frac{4}{3}$) voice exchange in major (Example 32-20b).

32-20 *A6-M10 voice exchange*

(a) *(b)*



Between a *major 6th* (or its enharmonic equivalent, a diminished 7th) and a *minor 10th,* note-against-note motion in the outer voices is scarcely possible, because of the poor sonorities produced (Example 32-21a). But introducing some oblique motion and, sometimes, inserting a whole step permits a number of interesting possibilities, including motion within an expanded subdominant or diminished seventh chord (Example 32-21b).

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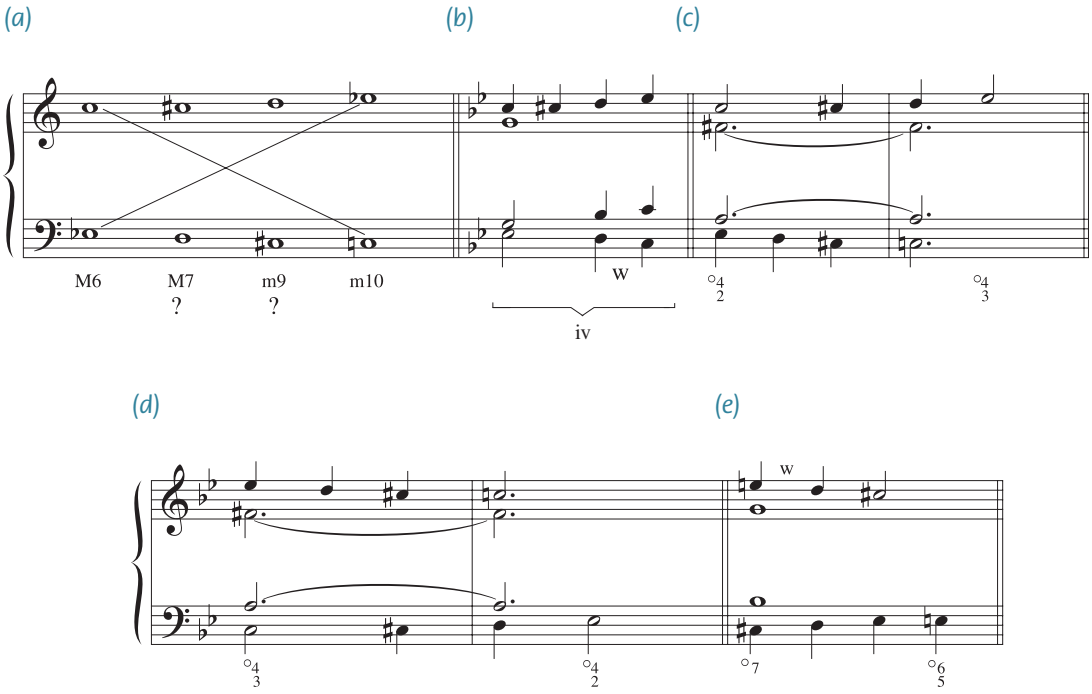
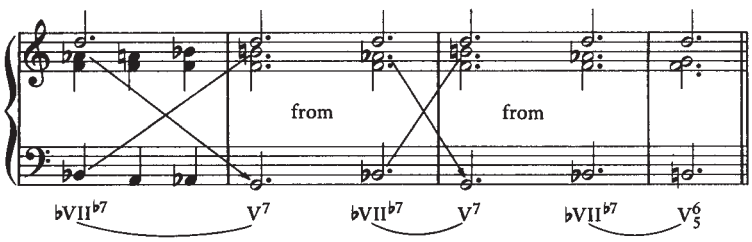
32-21 *M6-m10 voice exchange*



Note: In progressions of this type (Examples 32-17–32-21), a passing $\frac{6}{4}$ often occurs at the point where the voice exchange brings about an octave.

12. *The m7-M10 Voice Exchange.* The A6-M10 progression shown in Example 32-20a often occurs with a minor 7th instead of an augmented 6th in the initial chord. This notational variation permits a kind of chromaticized voice exchange between ♮VII^7 and V^7 in minor or ♭VII$^{\flat 7}$ and V^7 in major (Example 32-22). This usage elaborates the progression of a subtonic 7th to V^7 as described in Unit 25, Section 12.

32-22 *m7-M10 voice exchange*



A remarkable excerpt from Schumann (Example 32-23) makes use of the technique shown in the preceding example. Bars 1 and 2 elaborate V^7 of C

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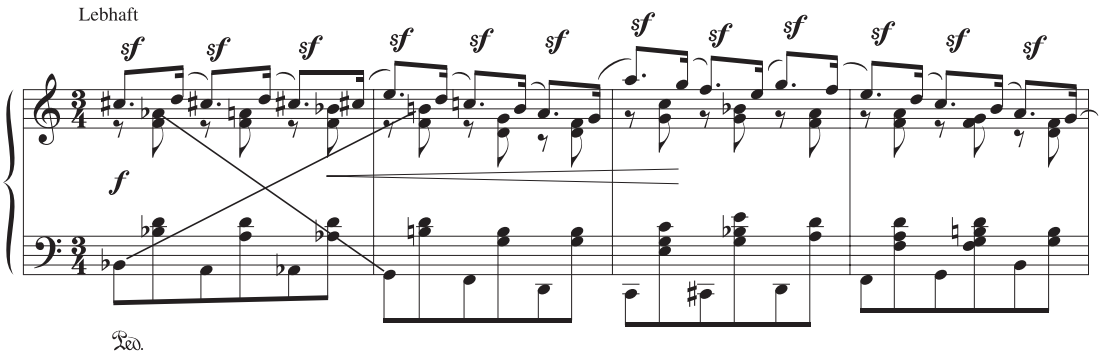
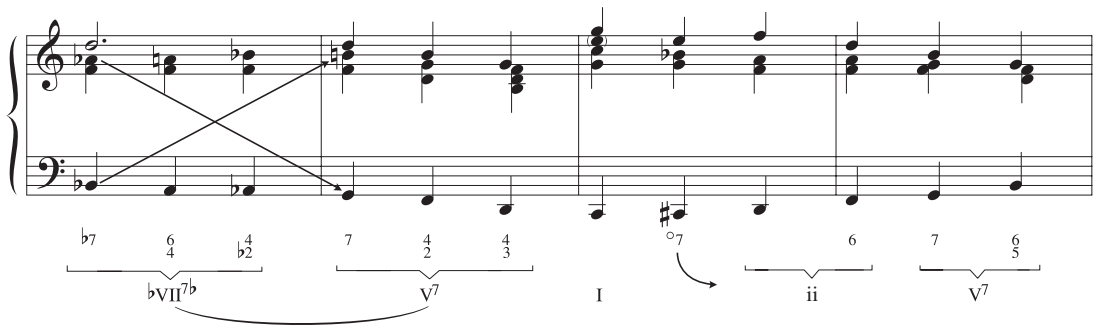
major through a ♭VII♭7-V7 voice exchange. The very prominent c♯2 of the melody is an accented neighbor of d2. Is it not rather amazing that a V7-I progression in C major forms the basis of such an unusual—even bizarre—passage?

32-23

(a) Schumann, Davidbündlertänze, Op. 6/9



(b) reduction



13. *Extended Passages with Voice Exchanges.* In the music of some late eighteenth- and nineteenth-century composers—especially Beethoven, Schubert, and Chopin—one encounters extended passages containing a number of 6-10 (or 10-6) voice exchanges; these passages often form the transitional element in a modulation. Example 32-24 shows a remarkable passage from the same Chopin Prelude we quoted in Example 31-1. This excerpt moves from E, the tonic, to the cadence in A♭ that began our earlier quotation; you will recall that the A♭ major stands for G♯, III♯ of E. As the first reduction (Example 32-24b) reveals, the passage contains four overlapping voice exchanges in which the last chord of each exchange becomes the first chord of the next. The second voice exchange is a 7-9 whereby B♭ transfers from a middle voice to the bass; the others are all of the more usual 6-10 variety. Example 32-24c isolates the voice exchanges so that you can see them more easily. The total effect is highly chromatic, although no single voice exchange contains chromatic passing tones like those in Examples 32-19–32-23. In addition to effecting changes in register, their purpose is to gradually transform the C major $\frac{6}{3}$ first into a dominant-type

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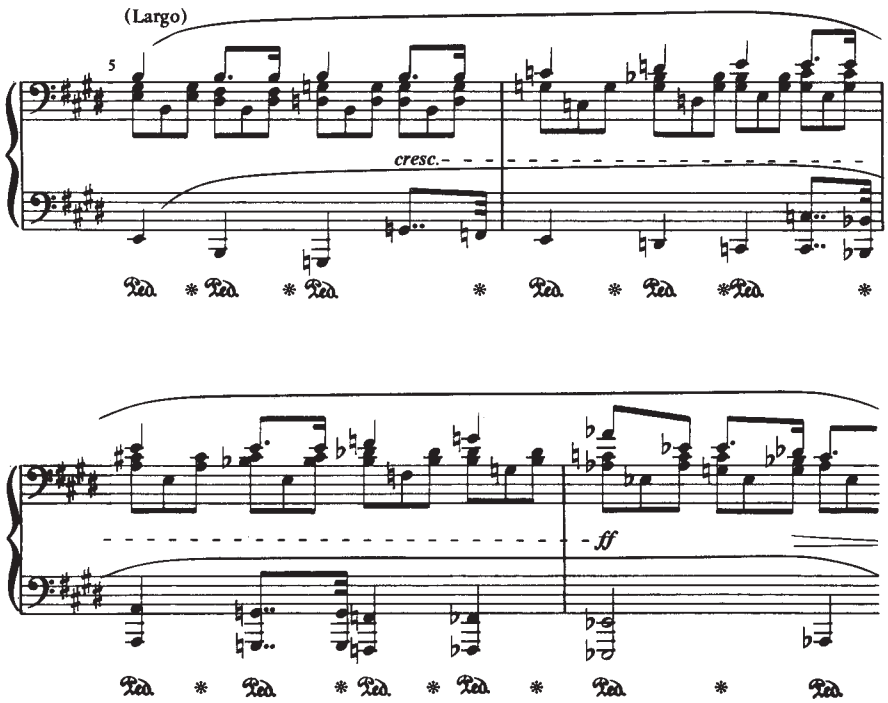
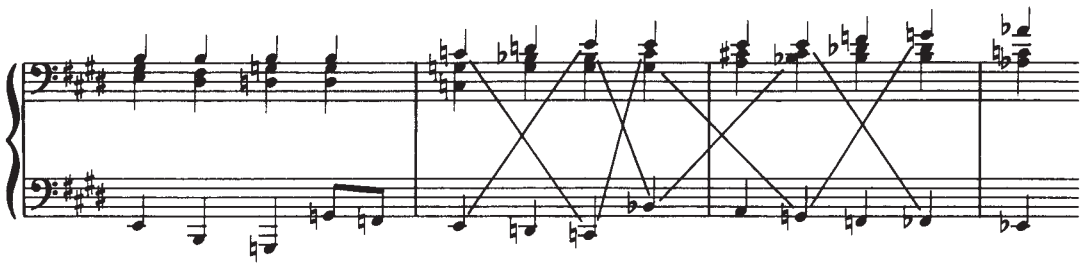
seventh chord, and eventually a diminished seventh resolving into the A♭ (G♯)$\frac{6}{4}$. The A-major triad and the B♭ minor $\frac{6}{4}$ function as emphasized passing chords within the voice exchanges. Though they add considerably to the richness and color of the passage, they are products of voice leading and have no independent harmonic status.

32-24

(a) Chopin, Prelude, Op. 28/9

(b) reduction 1



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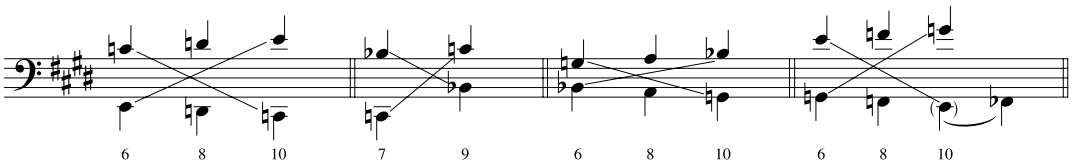
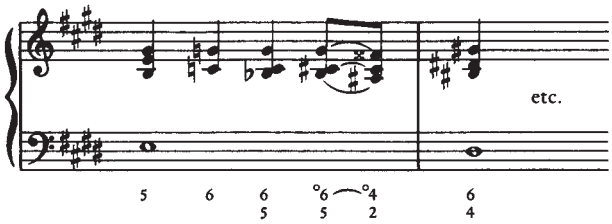
(c) reduction 2



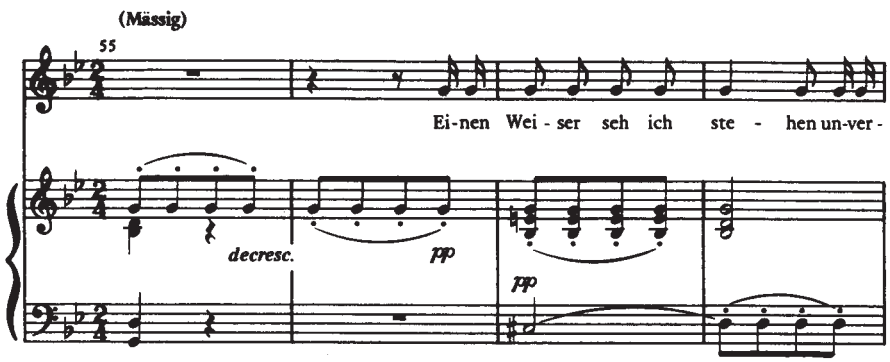
(d) reduction 3



Example 32-25 is equally remarkable and very different. In the first place, the passage as a whole does not modulate. In the second place, the voice exchanges are m10-M6's (or d7's) within a diminished seventh chord—vii°^{7} of V (compare Example 32-21e). There are three of them, the third incomplete, so that the diminished seventh becomes an applied V^7. In a 10-6 exchange, the voices come closer together. An extended series, therefore, carries with it the danger of collision, unless the progression begins with improbably wide spacing. That danger is obviated here by the leap in the bass (bar 62) and, more importantly, by the upward leaps in the vocal part whereby inner-voice tones of the preceding chord are shifted to the top voice.

32-25

(a) Schubert, "Wegweiser" *(from Winterreise,* D. 911)



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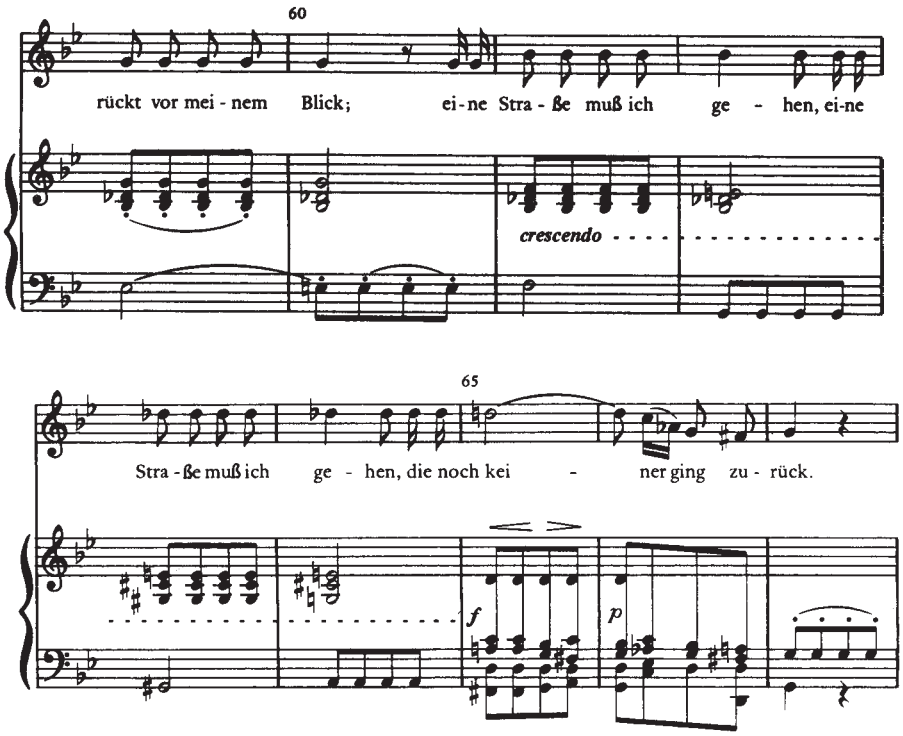
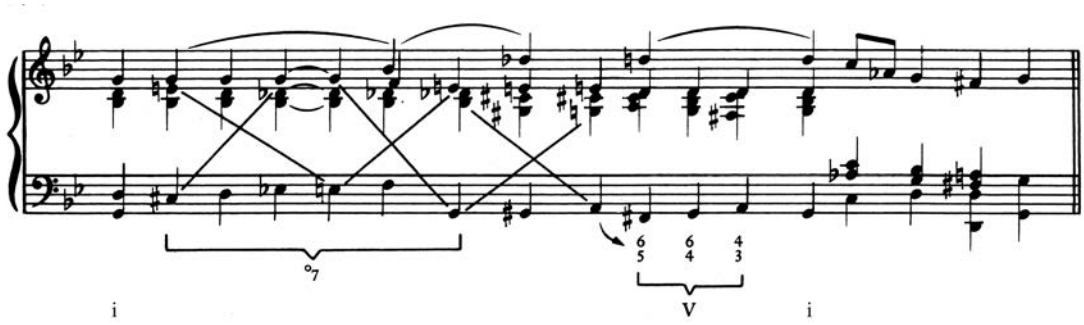
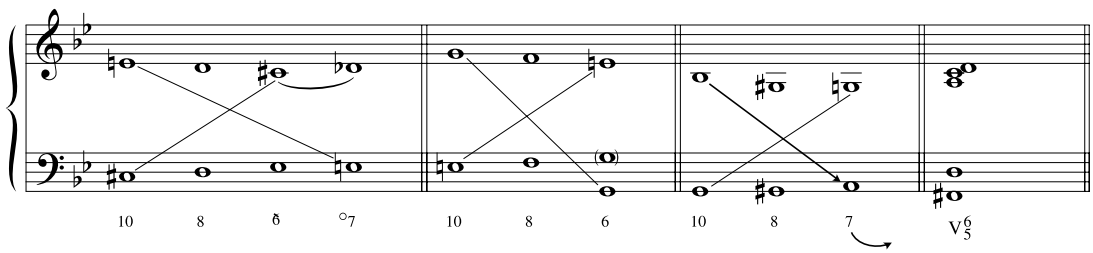

translation: I see a signpost standing firmly in my path; it points a road
I must travel, a road from which no one has ever returned.

(b) reduction 1



(c) reduction 2



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The B♭ minor and the C♯ minor $\frac{6}{4}$'s receive considerable emphasis from their rhythmic position and from the upward leaps in the vocal part. This emphasis contradicts their passing function; for a moment the listener might mistakenly believe that a new key area is being prepared. The contradiction between emphasis and function creates a temporary uncertainty as to the larger direction that wonderfully expresses the sense of the text. The words are also reflected in a breathtakingly original quirk of notation. In bars 63–64, Schubert writes D♭ in the vocal part, in contradiction to the C♯ of the accompaniment and the drive to D, the dominant. The vocal line, of course, has been arpeggiating a diminished seventh chord. Now an arpeggio through °7 will traverse one or more octaves—will return, therefore, to the initial scale degree—only if an augmented 2nd occurs in each octave, thus: G-B♭-C♯-E-G. If it consists only of minor 3rds—G-B♭-D♭-F♭-A♭♭, and so on, through an infinite series—the arpeggio will never return to its origin, no matter how long it goes on. Schubert's strange notation, therefore, embodies a musical symbol for "a road from which no one has ever returned."

Equal Divisions of the Octave

14. *Equal Divisions and Chromaticism.* Using diatonic elements alone, we cannot articulate the musical space within an octave into equal divisions. If we wished to divide the space between the tonic and its upper octave into two segments, the closest we could come to equality would be a 5th and 4th (in C major, C-G-C and C-F-C). If we wished to divide it into three parts, the most nearly equal possibility would be a major 3rd, minor 3rd, and perfect 4th (in C major, C-E-G-C, C-E-A-C, and C-F-A-C). Some important elements of the diatonic system are symmetrical; that is, they are based on the equal segmentation of musical space. Among these are the division (in all modern tuning systems) of the major 3rd into two whole steps and the balance between the 5ths from $\hat{1}$ up to $\hat{5}$ and from $\hat{1}$ down to $\hat{4}$. But many of the most important relationships are asymmetrical, and it is partly the lack of uniformity in the divisions of the octave that makes each scale degree sound different from the others and that gives to tonal music the possibility of directed, goal-oriented motion.

Using chromatics makes it possible to divide the octave into segments that are equal or enharmonically equivalent. There are four possible divisions of the chromatic scale's twelve semitones; twelve can be divided by two, three, four, and six, so the possibilities are into two tritones (A4 and d5), into three major 3rds (one written as a d4), into four minor 3rds (one written as an A2), and into six whole tones (one written as a d3). As Example 32-26 shows, the four divisions intersect with one another at various points. The tritone appears midway through the divisions into six whole tones and into four minor 3rds, and one of the major 3rds coincides with every other whole tone. These intersections represent structural connections among the divisions. Note that the use of enharmonic equivalents is necessary if the motion is to span an octave. Without the enharmonics we would be in the position of the character in Schubert's *Wegweiser* and would arrive at an augmented 7th or a diminished 9th, but never at an octave. (In that case, the progression would still contain an enharmonic, but this time between the beginning and the final tones.)

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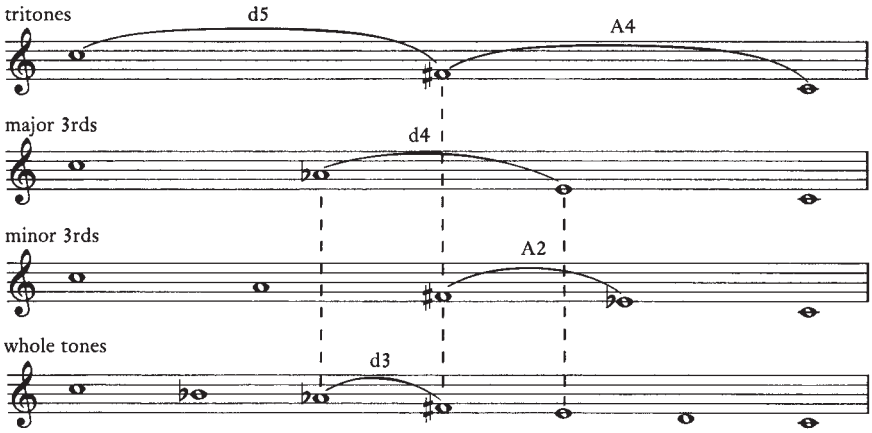
32-26 *equal divisions of the octave*



Starting in the late eighteenth century, composers began to explore the possibilities resulting from equal division. The resultant progressions represent one relatively minor aspect of nineteenth-century compositional technique. A predominance of equal division would weaken the gravitational attraction of the tonic that is the central feature of tonality. Such passages can be interesting for several reasons. One is to observe how composers integrated them into compositions mainly based on very different procedures. Another is to observe in them one of the nineteenth-century sources of a basic premise of much twentieth-century music: that all twelve tones of the chromatic scale are available to the composer as elements of potentially equal status.

15. *The Octave Divided into Major 3rds.* The most important equal division of the octave is into three major 3rds. Such passages usually extend a major triad, often though not always the tonic, appearing at the beginning and the end of the progression (Example 32-27). Of all the equal divisions, this one is the most closely related to diatonic procedures. In major, the only bass tone foreign to the scale is ♭$\hat{6}$—a very frequent product of mixture. Usually ♭$\hat{6}$ also occurs in an upper part, where it functions normally as neighbor to $\tilde{5}$; consequently, the foreign tone, ♭$\hat{6}$, is not left unresolved. Before it resolves, ♭$\hat{6}$ will probably be transformed to ♯$\hat{5}$ at the point where the diminished 4th occurs in the bass (Example 32-27a). Most often the diminished 4th is notated between ♭$\hat{6}$ and $\hat{3}$, for that is the way the passage sounds. For ease of reading, however, other notations will sometimes occur in keys with many accidentals in their signature (Example 32-27b). Sometimes each new triad is introduced by an applied chord.

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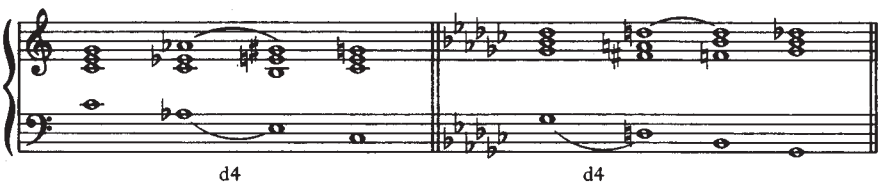
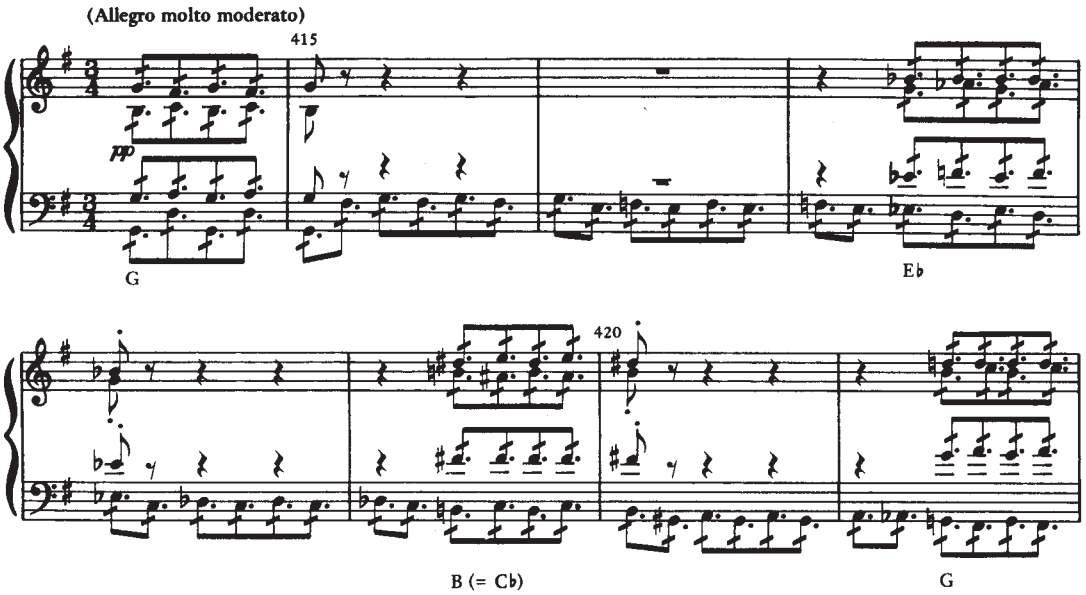
32-27 *octave divided in major 3rds*

(a) *(b)*

In Example 32-28, the bass line first moves down a major 3rd from G to E♭ (I-♭VI). The E♭ chord is then extended by a continuation of the motion in 3rds; eventually it becomes a German $\frac{6}{5}$ resolving to V; see the reduction, Example 32-28b. Two aspects of this passage are typical of chromatic motions in major 3rds. First, the progression descends; 3rds descend more often than they ascend in both chromatic and diatonic textures. Second, the progression in 3rds uses only major triads—a feature typical, as we have seen, of many chromatic techniques. Another aspect is more special, though by no means unique: A whole-tone scale is formed by the passing tones between chord roots (see the relation between whole-tone and major 3rd divisions in Example 32-26). The descending bass in this excerpt relates to the bass in Example 32-8, drawn from an earlier passage in the same movement. You may recall from the earlier excerpt that ♭$\hat{6}$ in the bass did not lead directly to dominant harmony. Here, ♭$\hat{6}$—extended by the chromatic motion in 3rds—does, in fact, lead to V in a culminating moment near the very end of the movement.

32-28

(a) Schubert, String Quartet, D. 887, I

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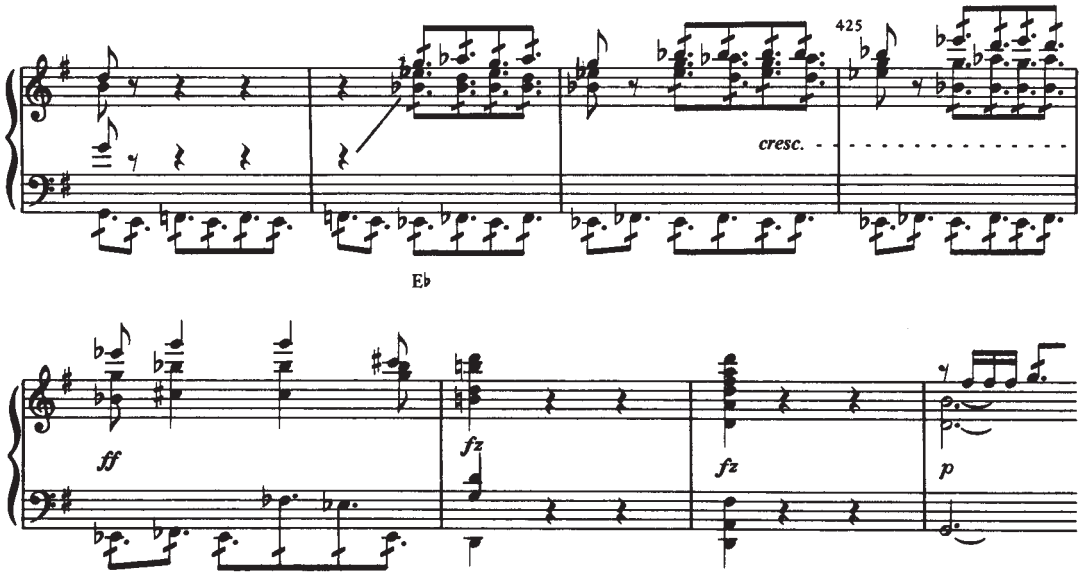
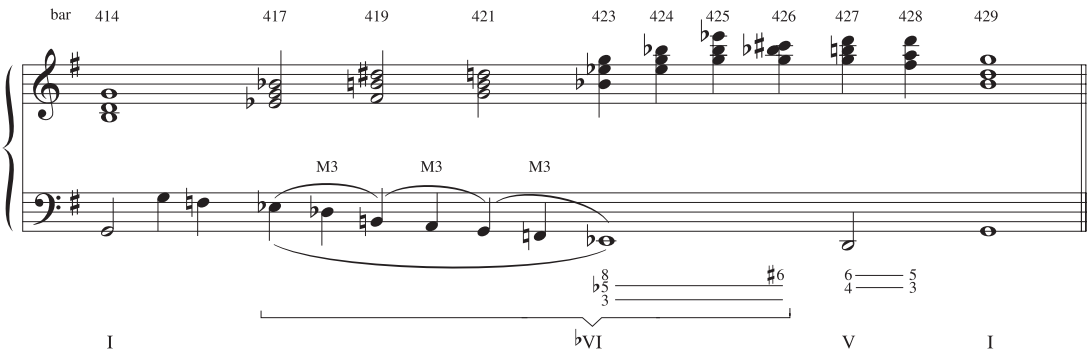

(b) reduction



16. *The Octave Divided into Tritones and into Minor 3rds.* These divisions are related in that the sum of two minor 3rds is a tritone; thus, the progression C-E♭-G♭/F♯-A-C contains the progression C-G♭/F♯-C. Both divisions tend to be less satisfactory expansions of the tonic than a motion in major 3rds because they are in conflict with the strong tendency of $\hat{\sharp 4}$ to resolve into $\hat{5}$. The conflict is particularly drastic if the motion is simply $\hat{1}$-$\hat{\sharp 4}$-$\hat{1}$. If the tritone is embedded in a series of minor 3rds, its effect is considerably softened, especially if the passage is sequential. But sequential repetition brings other problems, for the number of steps needed to fill the octave can sound excessive. Example 32-29, based on minor 3rds, is, indeed, more than usually repetitious, but it is not without a certain fascination. A curious feature is the use of common-tone °7's, which lead into applied dominants. There are four °7's, all enharmonic equivalents of one another.

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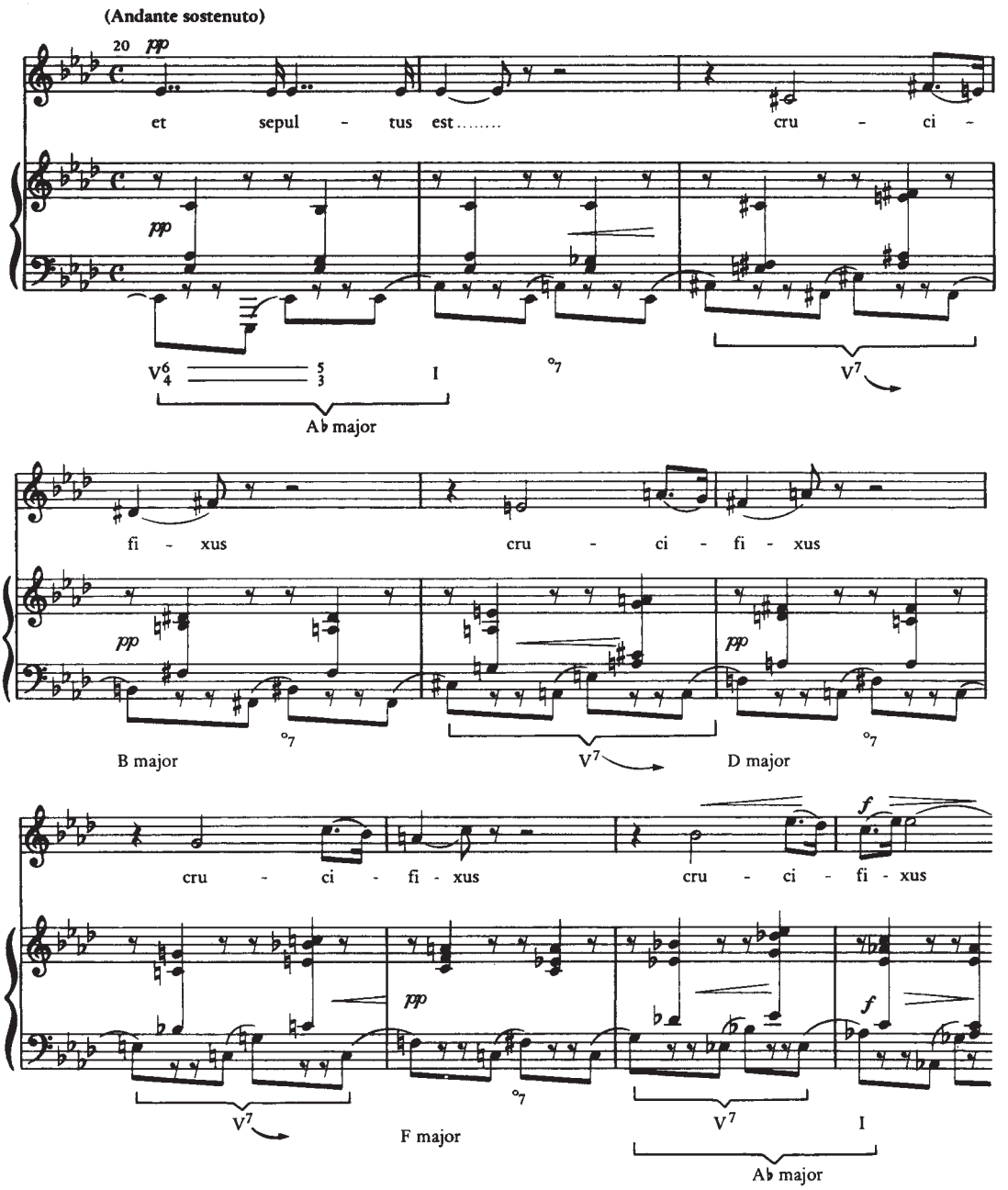
32-29 Rossini, Crucifixus (from *Petite Messe solennelle*)

(Andante sostenuto)
20
pp
et sepul - tus est..... cru - ci -
V6/4 5/3 I °7 V7
Ab major
fi - xus cru - ci - fi - xus
B major V7 D major
cru - ci - fi - xus cru - ci - fi - xus
f
V7 F major V7 I
Ab major

translation: He was crucified and was buried.

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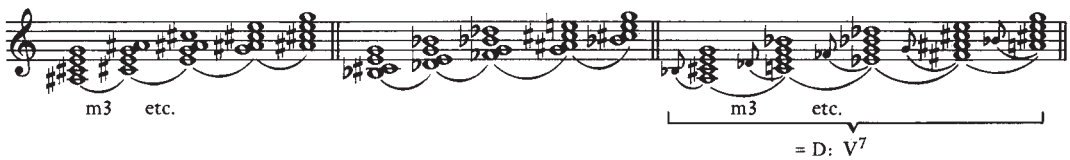
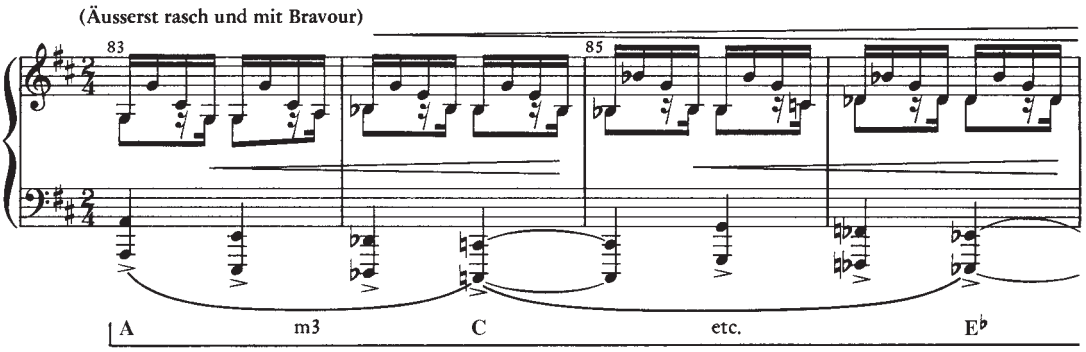
17. *Extending Seventh Chords through Division into Minor 3rds.* Dividing the octave into minor 3rds often works more effectively within the expansion of a seventh chord than within a triad, especially a tonic triad. Let us begin with a diminished seventh chord. Because °7 divides the octave into minor 3rds, extending it through changes of position can easily produce a minor 3rd subdivision of the octave, as in Example 32-30a. We can express each of these positions of °7 by an enharmonic equivalent, producing four different notations (Example 32-30b). And because each °7 differs by only one note from a dominant seventh chord, we can derive from the four °7's a chain of dominant sevenths whose roots divide the octave in minor 3rds, just like the °7's (Example 32-30c). That is what happens in a passage from Schumann (Example 32-30d), whose basis is an extended V^7 of D. This fundamental harmony receives a most colorful elaboration through a cycle of minor 3rds, with a dominant-type seventh chord built on each new bass tone: A, C, E♭, F♯, A. Only the A^7 functions harmonically as a dominant; the others are subordinated to the governing A^7 chord. Each "dominant" seventh is preceded by a diminished seventh whose bass tone forms an appoggiatura, and it is the fleeting °7's that form the connective threads of this passage, integrating its disparate tonal elements into a unified fabric of sound.

32-30

(a) *(b)* *(c)*

(d) Schumann, Novelette, Op. 21/2



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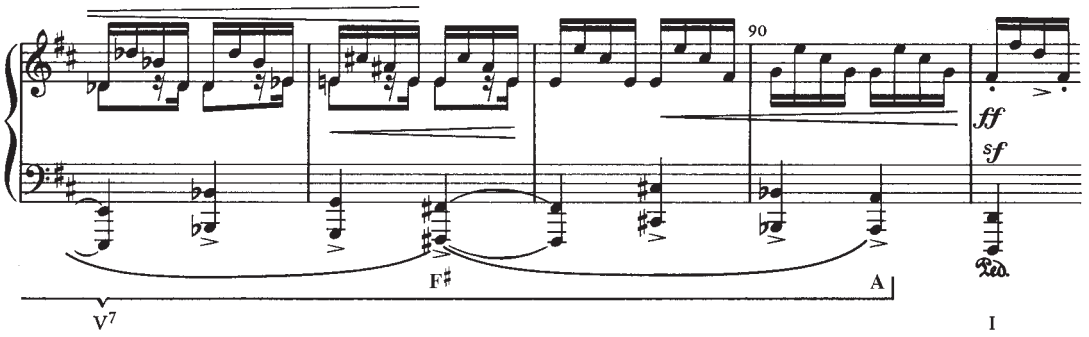

A minor 3rd cycle of "dominant" sevenths can form the basis of an extended voice-exchange passage; the voice exchange is of the m7 or A6-M10 type discussed in Section 12. Example 32-31a shows how the cycle can extend through an entire octave, forming the expansion of a V^7. As in Example 32-30d, the seventh chords form a cycle of minor 3rds, but in other respects the effect is quite different. The extended lines by contrary motion integrate the "dominant" sevenths into the chromatic passing motion so that individual chords stand out less. Turn back to Examples 32-22 and 32-23. There, the 7-10 voice exchange connects two seventh chords with roots a minor third apart (B♭ and G, just like the last two measures of Example 32-31a). Here, the extended voice-exchange passage uses precisely the same intervallic and chordal pattern and continues it through four overlapping statements until the bass traverses an entire octave.

As is usual with these chromaticized voice exchanges, the passage is reversible, so the lines can move inward (10-7) as well as outward (7-10); Example 32-31b illustrates the contracting form (the expanding form is the more typical). If the series breaks off before the octave is reached or if the final seventh chord is reinterpreted as an augmented sixth, the passage can lead to a new and possibly unexpected key area. In the contracting form, notice that a passing $\frac{6}{4}$ occurs as the third chord of each pattern; in the expanding version, the $\frac{4}{2}$ position of each dominant seventh appears before the next statement. These observations should help you to write these passages (remember that the bass is a chromatic scale that traverses an octave).

The C. P. E. Bach excerpt (Example 32-31c) is much the same except at the beginning and the end, which depart from the pattern so that the passage expands °7 (vii°7) instead of V^7. Thus, the expanded 7th chord begins and ends with G♯, rather than G♮, in the bass. As a result, the cycle begins with a major 3rd, G♯-E, and it ends with a diminished 3rd, B♭-G♯, rather than moving solely by minor 3rd. This passage is unusual in many ways, not least of them the great length of time it takes for an intensely dissonant sonority to resolve. The excerpt is the final statement of an opening rondo theme that has been varied and expanded in its subsequent appearances; our excerpt shows the most spectacular of these variations. In its initial form, the theme contains a diminished seventh in bar 2 that resolves to the tonic in bar 3, just as in the opening four bars of Example 32-31c. When this idea is repeated, however, the bar with the diminished seventh chord (bar 141) expands to thirteen bars (!) of highly chromatic passing motions within the very same °7; only at bar 154

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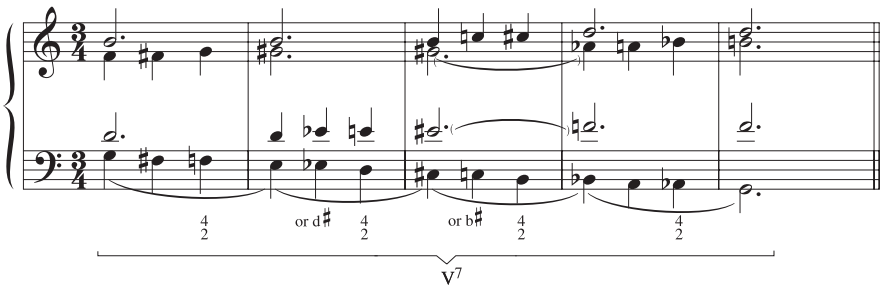
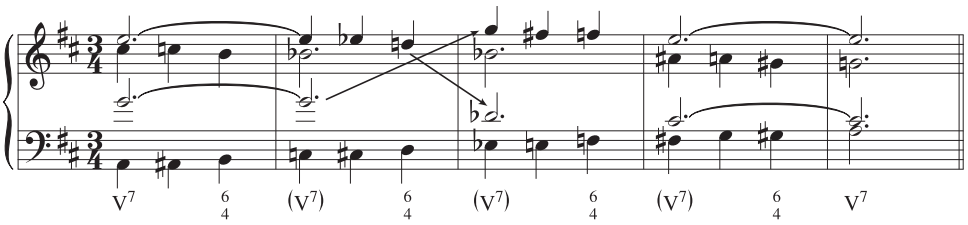
does the tonic finally appear so that the theme can proceed as before. Written in 1780, this is an early example of a kind of writing that we mainly associate with the nineteenth century. The two motions shown in Examples 32-31a and b—the expansion of a V^7 (augmented 6th) or a diminished seventh chord, with the bass moving chromatically through equal divisions of the octave (minor 3rds)—are sometimes referred to as "omnibus" progressions.

32-31

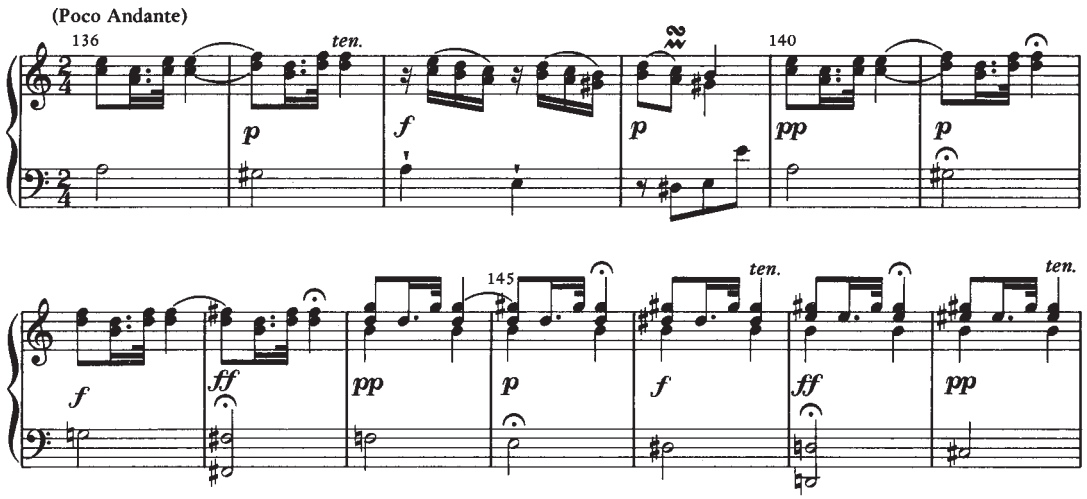
(a) extended voice-exchange passage



(b)



(c) C. P. E. Bach, Rondo, Wq. 56/5



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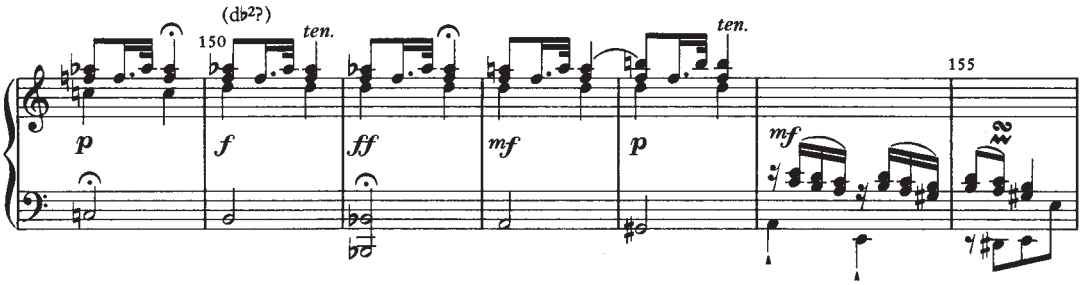
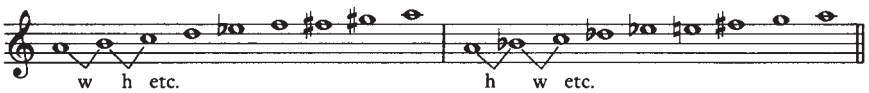


18. *The Octatonic Scale.* If you look at the lower line of the right hand of Example 32-30d (the part with the downward stems), you will see that it consists of a stepwise line that alternates whole tones and semitones—a formation known as an *octatonic* (eight-note) scale. In fact, the entire passage contains only these same eight notes. The scale exists in two forms: starting with the whole tone (as in Examples 32-30d and 32-32a) or with the semitone (Example 32-32b). In Classical and early Romantic music, the scale usually arises as a by-product of extended °7's and has no functional importance, but some composers in the late nineteenth century—especially Rimsky-Korsakov—began to cultivate it for its own sake. Together with other symmetrical tonal structures, it forms a bridge into the music of the twentieth century (Stravinsky, a pupil of Rimsky-Korsakov, used it).

32-32 *octatonic scale*

(a) *(b)*



19. *The Octave Divided into Whole Steps.* Whole-tone scales in the bass or in an upper part can arise as a by-product of a motion in major 3rds (Example 32-28). However, placing a major or minor triad over each step of a whole-tone scale in the bass, as happens with major and minor 3rds, is a most unlikely possibility in tonal music. In Example 32-33, a whole-tone progression of major triads does in fact appear, but each triad follows an applied dominant seventh so that the whole-tone scale appears embedded in a *chromatic cycle of descending 5ths*—all twelve notes of the chromatic scale arranged by 5th. The 5th progressions add an element of direction to the passage that would be lacking in the whole-tone progression by itself.

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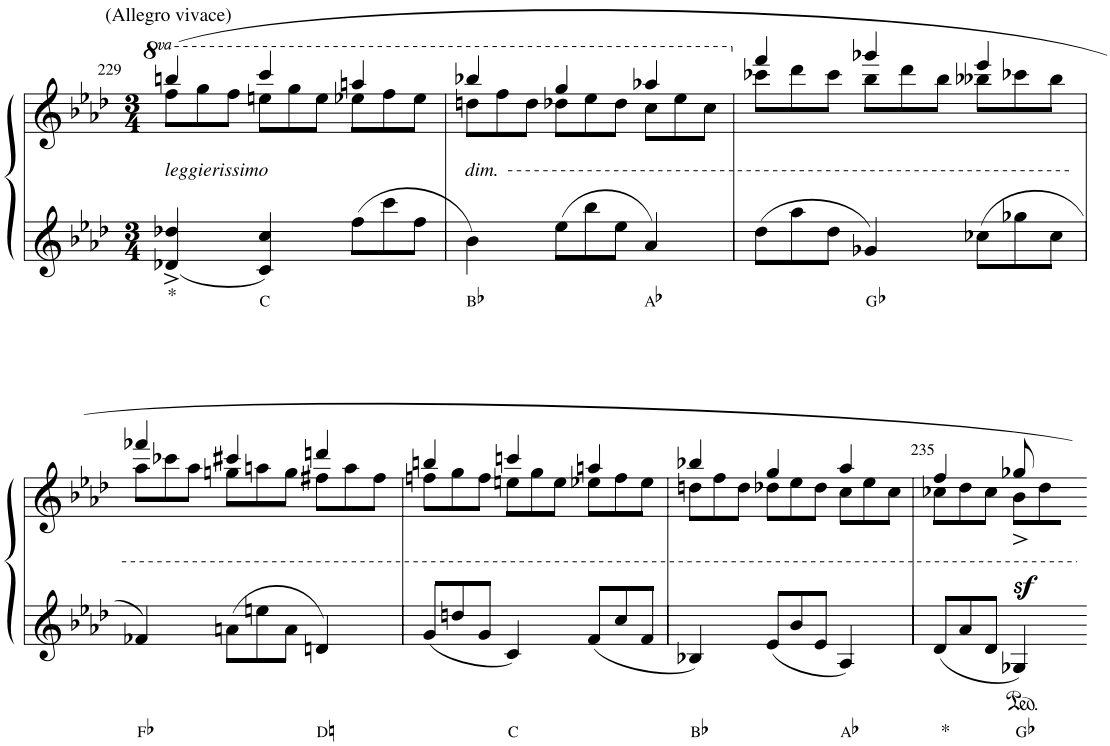
32-33 *Chopin, Piano Concerto, Op. 21, III*



The Chopin excerpt of Example 32-33 illustrates the relation between whole-tone and tritone subdivisions presented in Example 32-26, for the passage continues beyond the octave and stops on G♭, midway through a second octave and a tritone below the C triad on which the first phase of the passage is based. In a fascinating and amusing musical pun, Chopin leads into the first C chord through the augmented 6th D♭-B♮, and he uses an enharmonic equivalent of this augmented 6th (D♭-C♭) to form the applied dominant to the G♭♭ that ends the passage. (See asterisks.)

Example 32-34 also subdivides an octave into six whole tones (filled in by chromatic passing tones), but the chords above the whole-tone steps are diminished sevenths, not triads. As a consequence, symmetrical subdivisions not only determine the bass line but also can be inferred from the chordal structures above the bass. Although the passage occurs in a more or less tonal context (it can be regarded as the expansion of a leading-tone chord applied to the F♯ triad), its internal organization is very close to that of some twentieth-century music.

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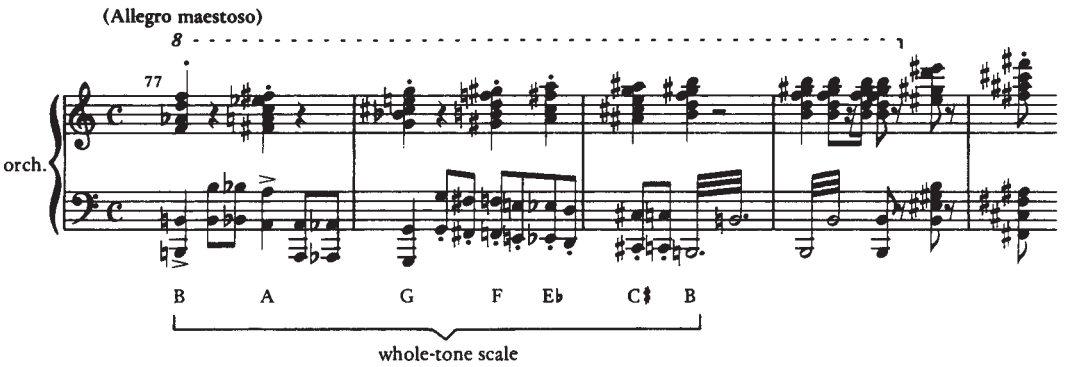
32-34 *Liszt, Piano Concerto No. 1*



POINTS FOR REVIEW

1. Some chromatic techniques are directly related to diatonic ones. Among these are passages in parallel $\frac{6}{3}$ chords, usually major. Another possibility is 7-6 suspensions altered by chromatic passing tones: in full textures, the 7ths are often accompanied by 5ths. Also important are sequences based on ascending 5-6's, often with augmented triads produced by chromatic passing tones; parallel 10ths between outer voices are frequent.
2. Descending 5-6 sequences (models) occur over a chromatic stepwise bass. They often start on the tonic but cannot reach V without breaking the sequence.
3. Augmented 6th chords often serve as connectives in passages usually descending in parallel major 10ths.
4. Consecutive °7's frequently appear in descending chromatic progressions of a transitional nature. They are usually notated as $\frac{6\text{-}4}{5\text{-}2}$ or $\frac{7\text{-}4}{3}$ and are related to passages of interlocking applied dominants. Ascending consecutive °7's are less frequent except for the progression on ♮$\hat{4}$-♯$\hat{4}$.
5. In some nineteenth-century music, passages in consecutive augmented triads (usually ascending) occur.
6. Chromatic passages in contrary motion are often organized within a 6-10 or 10-6 voice exchange. Such passages can expand a V^7, a diminished seventh chord, an augmented 6th chord, or a triad. The most characteristic possibility is a voice exchange between a minor 6th and a major 10th. Outer voices produce the following intervals: m6, A6, P8, M9 (or D10), and M10. A passing $\frac{6}{4}$ normally fills in the octave; the other sonorities are usually positions of German $\frac{6}{5}$ or V^7. Extended passages containing several voice exchanges are possible.
7. The most important of the equal divisions of the octave is into three major 3rds (one of them expressed as a diminished 4th). They usually descend and usually consist of major triads, possibly introduced by applied dominants. Passages in minor 3rds (one expressed as an augmented 2nd) are a less frequent possibility.

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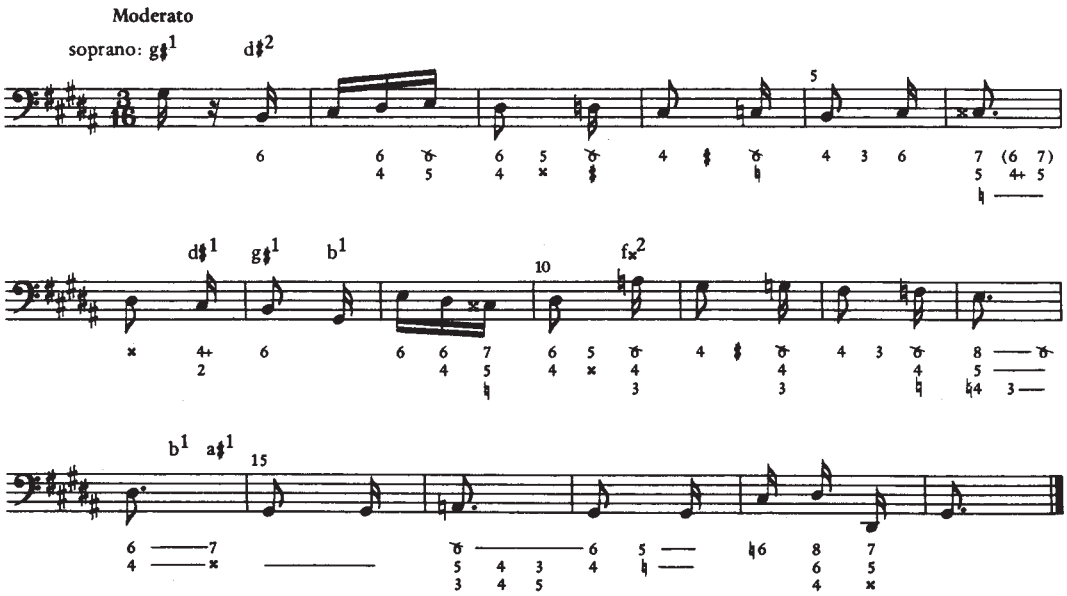
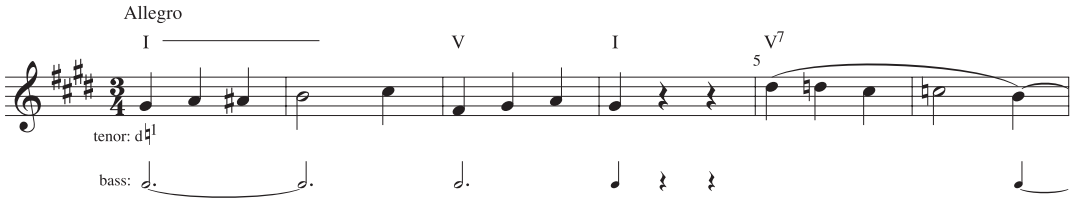
EXERCISES

1. Preliminaries.
   a. Write five brief progressions, each in a different key, with basses descending chromatically from tonic to dominant. Include chromatic parallel $\frac{6}{3}$'s (in major), chromaticized 7-6's (in major and minor), chromatic descending 5-6's (in major), and parallel °7's (in minor). Sometimes you may find it convenient to change to three-part texture.
   b. Write three brief progressions, each in a different *major* key, with basses rising chromatically from I to III♯. Include chromaticized ascending 5-6's (2 different versions) and parallel augmented triads. Lead III♯ to a cadence each time.
   c. Write three progressions containing chromatically filled-in voice exchanges between V^6_5 and V^7 (major), two positions of °7 (minor), *major* IV^6, and iv (minor).
   d. Write two progressions, both in major, based on the equal division of the octave into M3's and m3's.

MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

2. Figured bass.

3. Melody.



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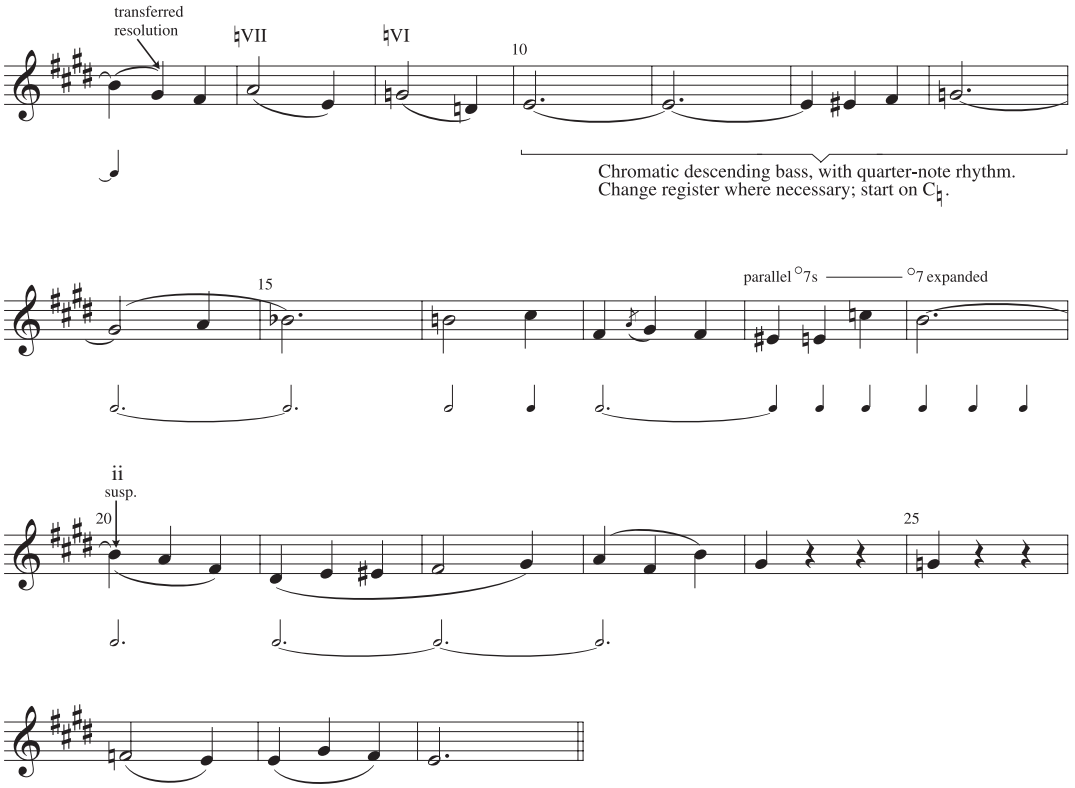
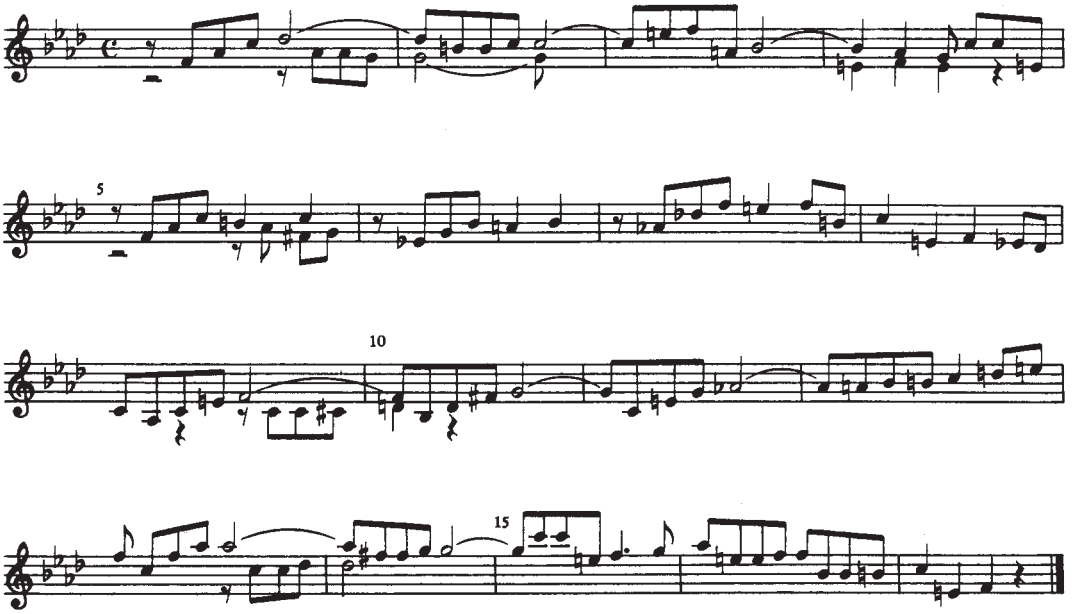


4. Melody. Set as a three-voice piece for keyboard; add a bass and complete the middle voice. The middle voice should contain the same kinds of rhythmic values as the soprano, but mostly in a complementary rhythm so that quick notes coincide with a long note in the soprano, and vice versa. The bass should be simpler rhythmically and should mostly use longer notes; you might begin with a dotted half followed by a quarter. The bass should be very chromatic.

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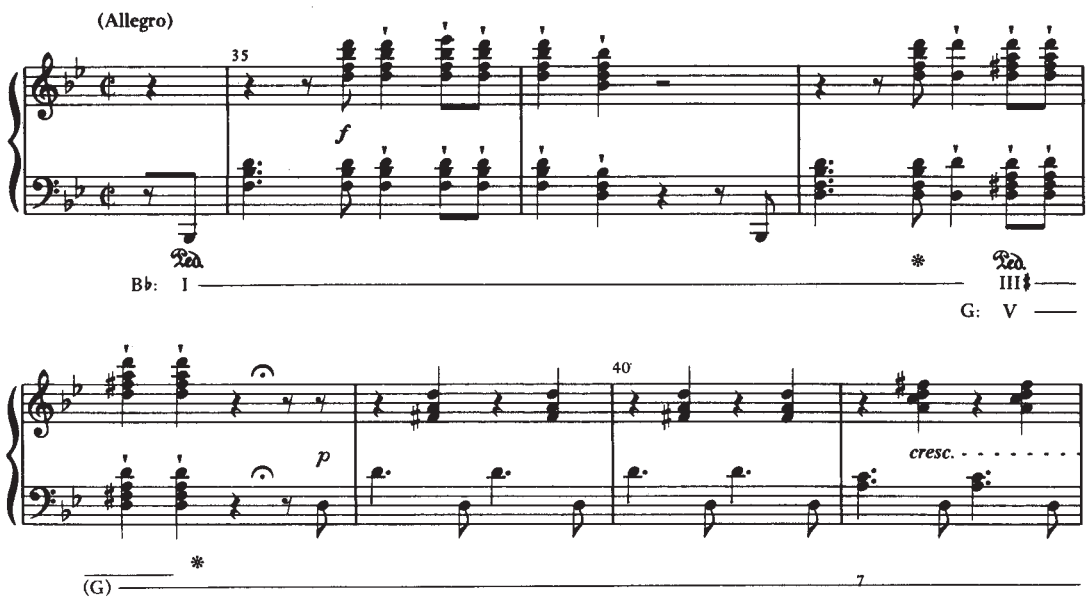
UNIT

33 Chromaticism in Larger Contexts

33-1 *Beethoven, "Hammerklavier" Sonata, Op. 106, I*

MINDTAP

Listen to the audio of all the unit's examples.

Practice the workbook's exercises, available in PDF.

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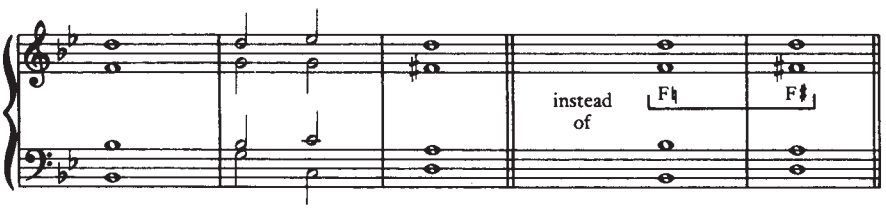
New Modulatory Techniques

1. ***Modulation by Chromatic Inflection.*** Example 33-1 shows the beginning of the bridge passage from the first-movement exposition of Beethoven's "Hammerklavier" Sonata. This movement exemplifies an important tendency in music of the Classical and Romantic periods: the large-scale use of chromaticism. The exposition moves from B♭ to G major—from I to VI♮—a key representing secondary mixture; our excerpt contains the passage where the change of key occurs. A most striking aspect of this modulation is the chromatic progression F♮-F♯ in bar 37. The F♯ is an inner-voice tone of the pivotal D-major triad, III♯ of B♭ and V of G. Because the pivot is a chromatically altered chord in one of the keys (the first), this is a *chromatic modulation,* like those discussed in Unit 29, Section 14. But this modulation, unlike those discussed earlier, contains a direct chromatic inflection (F♮-F♯), which juxtaposes the two tonal areas in a rather drastic, uncompromising way. (The pedal release in bar 37 and the open octaves in the middle of the bar create a slight separation between the F and F♯, but they do not undermine the feeling of a direct confrontation.)

   A composition cannot move from B♭ major to G major through a diatonic pivot chord, for the two keys have no chords in common. But it would be easy to effect a smoother chromatic modulation than Beethoven's by avoiding the direct chromatic progression F♮-F♯, as in Example 33-2. Why Beethoven did not choose to avoid it—why he wrote an abrupt rather than a smooth modulation—has to do with the motivic design of the piece. The contrast between F♮ and F♯ (together with a related one between B♭ and B♮) is a most important feature of the movement and, indeed, of the entire sonata.* To have softened this first confrontation would have weakened the compositional fabric.

33-2 *smooth vs. abrupt chromatic modulation*

   Not all modulations by chromatic inflection are brusque; some are quite gentle—for instance, the Schubert excerpt quoted in Example 31-7, bars 27–28. Rhythm, texture, and dynamics can all influence the effect of a modulation. So can the quality of the chromatic inflection—whether it is one of increasing intensity, like the F♮-F♯ (5̂-♮5̂) of the Beethoven, or of decreasing intensity, like the D♯-D♮ (♯2̂-♮2̂) of the Schubert. But whether abrupt or gentle, modulations by chromatic inflection tend to attract the listener's attention to the key change much more than diatonic modulations do.

*See especially bars 227–277 of the first movement. Also see the Scherzo, bars 160–172, and the connection of the Adagio—in F♯ minor!—to the Finale. These are just a few instances.

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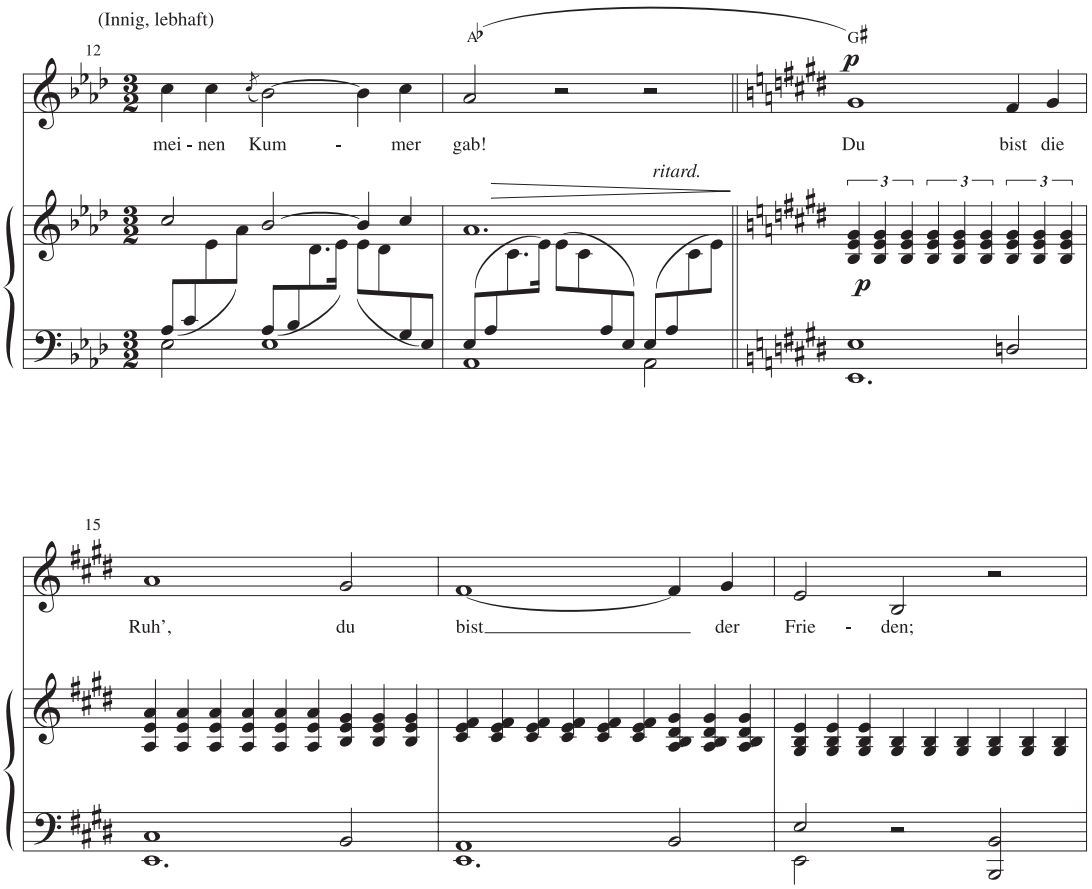
Modulation by chromatic inflection is one of the techniques that accompany the extended application of chromatic procedures. In this final unit, we shall first study some of these new modulatory techniques. We shall then investigate compositional plans that embody large-scale chromaticism.

2. *Modulation by Common Tone.* The A section of Schumann's "Widmung" stays in A♭ major, the tonic. Most of the B section is in ♭VI, really F♭ major, but written in E to make it easier to read. Example 33-3 shows the transition from one key area to the other. As in the Beethoven excerpt, the immediate chord progression is by 3rd, but descending rather than ascending. And there is also a chromatic inflection, though it is disguised by the enharmonic notation; if you think of the E major as F♭, you will see that the inner-voice progression C-B♮ (bars 13–14) stands for C-C♭. An important difference between this modulation and Beethoven's is that this one lacks a real pivot chord. The E (F♭) triad so obviously marks the beginning of a section that we hear it immediately as a new local tonic rather than as part of the previous key area. The lack of a pivot chord makes this modulation look abrupt on paper. Yet it does not *sound* abrupt, for an important common element helps to integrate the two tonal regions: It is the melody tone A♭/G♯, sustained in the vocal part above the chord progression A♭-E (F♭).

33-3 *Schumann, "Widmung", Op. 25/1*

translation: [You are the grave in which, forever,] I have buried my grief. You are rest, you are peace;

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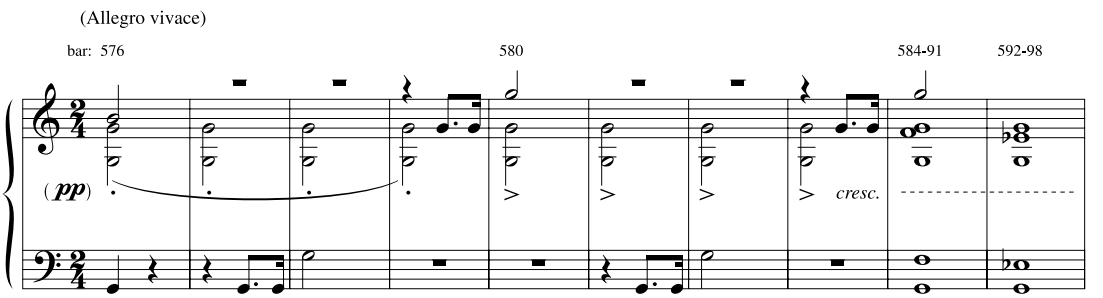
Modulations where the main connecting element is a common tone rather than a common chord are often called *common-tone modulations.* (If there is a pivot chord, as in the Beethoven, this term is not usually applied, even though there might be a prominent common tone.) The common tone will appear in an exposed position, usually in the soprano. Common-tone modulations are particularly effective when the immediate chord progression is from a major triad down a 3rd to another major triad. The typical possibilities are I to ♭VI in major (as in the Schumann) and III♯ to I, also in major. If, as is usual, both the triads connected by the common tone are major, the modulations will also contain a chromatic inflection.

Common-tone modulations can create surprising effects, as in the astonishing recapitulation of the Finale of Schubert's Symphony in C major (Example 33-4). The development culminates in a long pedal point on G, V of C major, setting the stage, one thinks, for the return of the tonic. Instead, the V chord thins down to an octave G, against which a passing F moves to an E♭ (Example 33-4a). At first, the E♭ sounds like another passing tone within V, leading down to D. But suddenly the full orchestra enters fortissimo with the recapitulation—not in C at all, but in the remote key of E♭ major (Example 33-4b).

As in the Schumann, the connecting link is a common tone (G), and the chord progression is down a major 3rd with major triads. What is so startling about the Schubert is that the E♭ chord supplants an expected tonic and that a seeming element of melodic figuration—the tone E♭ of bar 592—becomes the basis of a whole section. Interestingly, the section in E♭ (♭III) is one phase of an elaborate progression from the V at the end of the development to a delayed C major much later in the recapitulation.

33-4 *Schubert, Symphony in C major ("The Great"), D. 944, IV*

(a)



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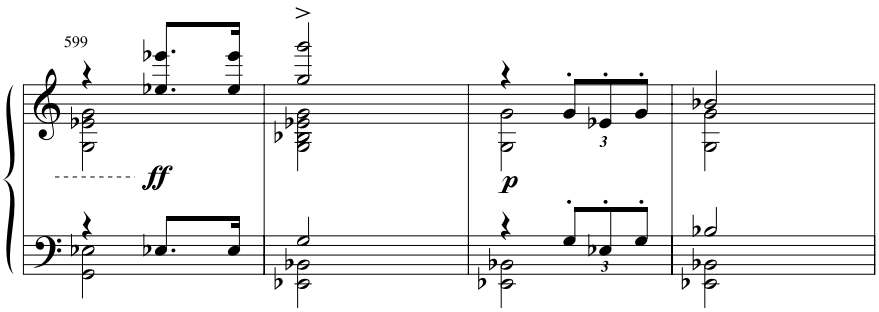
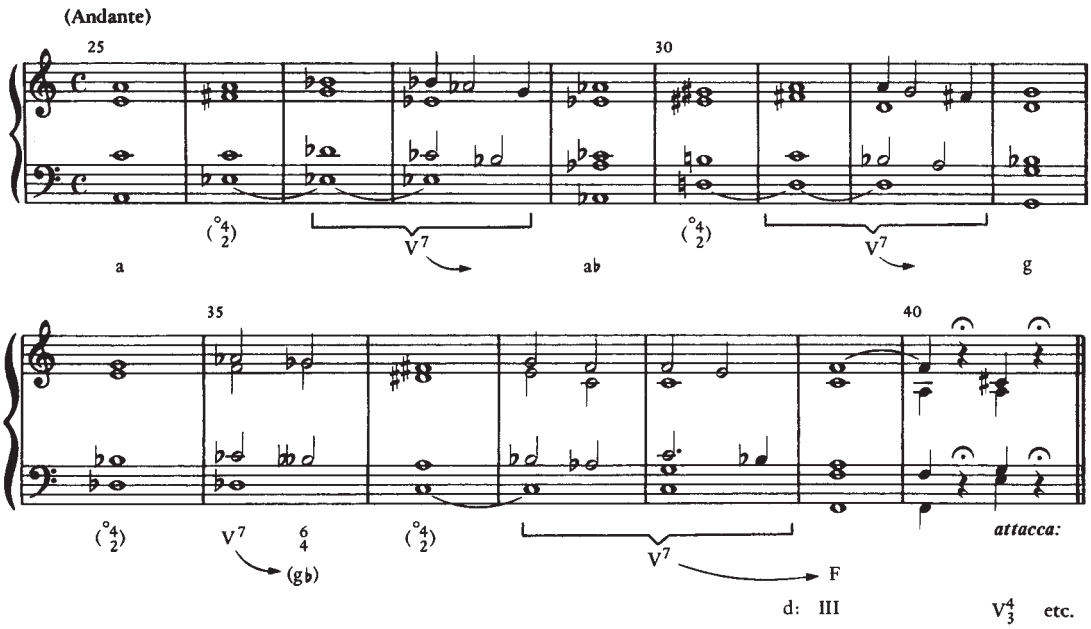
(b) recapitulation



3. *Modulation by Chromatic Sequence.* You know from Unit 27 that sequential transitions can connect two key areas. Such passages can have an extremely chromatic character, sometimes, even, when they move between diatonically related areas. Example 33-5 shows, in reduction, the transition between a movement in A minor and one in D minor. The motion from A down to D divides into two 3rds, A-F and F-D; the one from A to F is filled in chromatically by a sequential progression. Each chromatic step between A and F—A♭, G, and G♭—is tonicized by an applied V^7. Note that the sequence changes as it approaches G♭; the pattern is compressed and the G♭ triad occurs in $\frac{6}{4}$ position. This change forestalls excessive repetition and helps emphasize the immediate goal, F. A curious feature of this passage is the prevalence of minor triads. They undoubtedly reflect the penitential character of the text, as do the A4 and d5 leaps in the bass line and the large-scale chromatic descent. The common-tone °7's produce a most extraordinary effect here; it will be discussed in Section 5.

33-5 *Mozart, Confutatis (reduction)* *(from Requiem, K. 626)*



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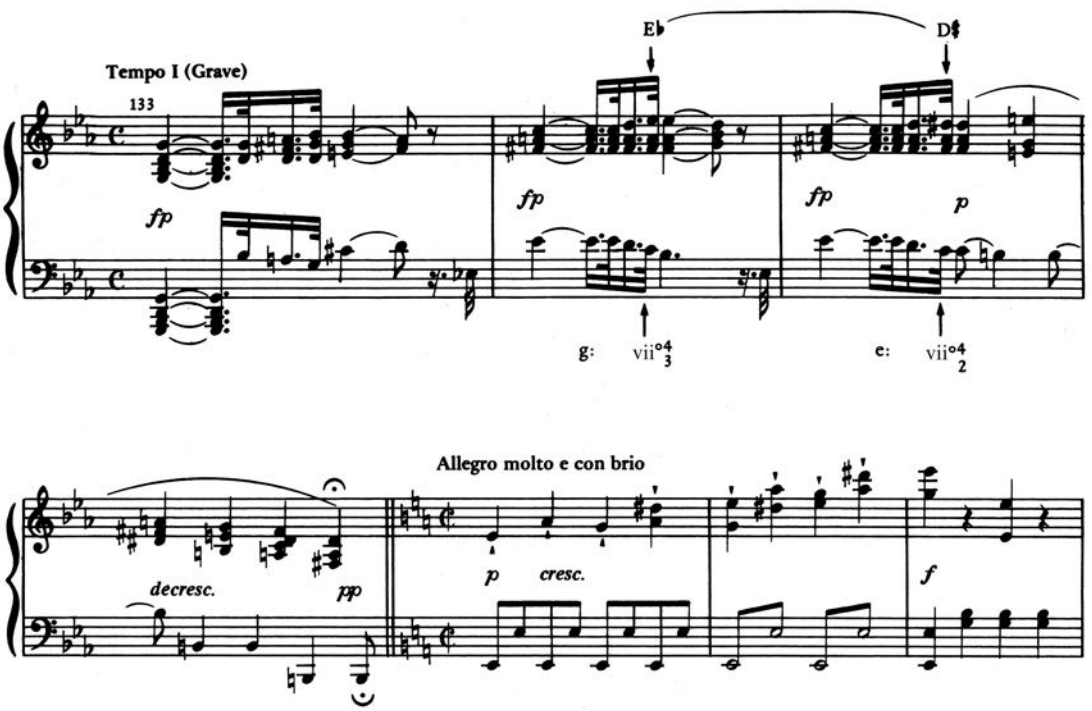
4. ***Enharmonic Modulations: Notational versus True Enharmonics.*** Among the most interesting modulations are those in which the pivot chord is reinterpreted enharmonically. But before we can begin to deal with these *enharmonic modulations,* we must distinguish between two kinds of enharmonic. One is purely notational; a composer uses an enharmonic spelling for ease in reading or to convey some expressive nuance. Thus in Schumann's "Widmung" (Example 33-3), the B section is in E rather than F♭ purely for convenience in reading; notating the whole section in F♭ would certainly be possible, though unkind to the performers. True (or functional) enharmonics, on the other hand, involve reinterpreting the melodic function of a note and are inherent in the musical structure; no change in notation could possibly eliminate them, for they would be heard even if they were not expressed in the notation. We have already encountered true enharmonic relationships in connection with the chromaticized ascending 5-6 progression and the equal subdivisions of the octave (Unit 32).

5. ***Enharmonic Modulation Based on the Diminished Seventh Chord.*** Enharmonic modulations involve true, rather than merely notational, enharmonics. Thus, Example 33-3 does *not* contain an enharmonic modulation. In Example 33-6, however, the modulation is truly enharmonic. A diminished seventh chord belonging to G minor is reinterpreted so that it leads to E minor; the E♭ is enharmonically transformed into a D♯, which now functions as a new leading tone, not as the 7th of the chord. In its new notation, and with its new orientation, the °7 embellishes the V^7 that ushers in the E-minor tonic.

33-6 *Beethoven, "Pathétique" Sonata, Op. 13, I*

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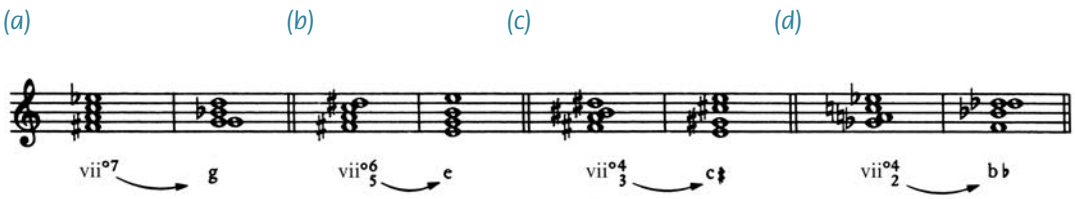
No other chord has so great an enharmonic versatility as the diminished seventh. Any °7 can be so notated that it functions as vii°7 of four different minor keys (Example 33-7). Through mixture, each of these keys can become major. In addition, vii°7 can function as an applied chord; its resolution need not be to a tonic. And, finally, °7 can act as a common-tone embellishment rather than as a leading-tone chord.

33-7 *enharmonic representation of Vii°7*

Composers often exploit the enharmonic ambiguity of the diminished seventh in sequential passages. In the Mozart *Requiem* excerpt (Example 33-5) the first diminished seventh (bar 26) sounds at first like an applied chord to V of A minor, but it turns out to be a common-tone °7 embellishing V7 of A♭ minor. The unexpected lowering of pitch resulting from the change in meaning partly accounts for the strangely moving effect of the °7's in this passage.

6. Enharmonic Modulations Based on Dominant Seventh and Augmented 6th Chords. The enharmonic connection between the dominant seventh and German $\frac{6}{5}$ (Unit 30, Section 24) can be the basis of a modulation. The interval of a minor seventh, for instance, can be respelled as an augmented 6th. In this way, a V7 can be reinterpreted as an augmented 6th belonging to a different key; less often, a chord first heard as an augmented 6th can turn into a V7. Example 33-8 demonstrates the first possibility. In bar 45, an applied dominant seventh on F (V7 of V in E♭) is reinterpreted as a German $\frac{6}{5}$ and resolves to V of A minor. The first violin's E♭ becomes a D♯; as often happens, the enharmonic change is not notated. In this excerpt, the resolution of the augmented 6th involves an indirect anticipation (Unit 22, Section 25); the D♯ or E♭ of bar 45 resolves on the last eighth note of the bar, before the rest of the chord changes. Also note the use of mixture; between bars 42 and 45, the bass line and most of the chords are borrowed from E♭ minor.

Knowing how the modulation works in detail makes it possible to study the larger context in which it occurs. As the reductions following the excerpt demonstrate, the framework is a motion from F major (an expanded III of D minor) to A minor (an expanded V). The F-major chord becomes a German $\frac{6}{5}$ to lead to V of A minor (Example 33-8b). The transitional tonicization of E♭ permits a consonant preparation for the dissonance; what is surprising is that this dissonance is prepared as a minor 7th but resolved as an augmented 6th (Example 33-8c). This enharmonic procedure allows Mozart to suggest a vast expanse of musical space in the course of a simple harmonic motion from III to V. What listener could predict that E♭ major would turn out to be a stop on the way from F major to A minor?

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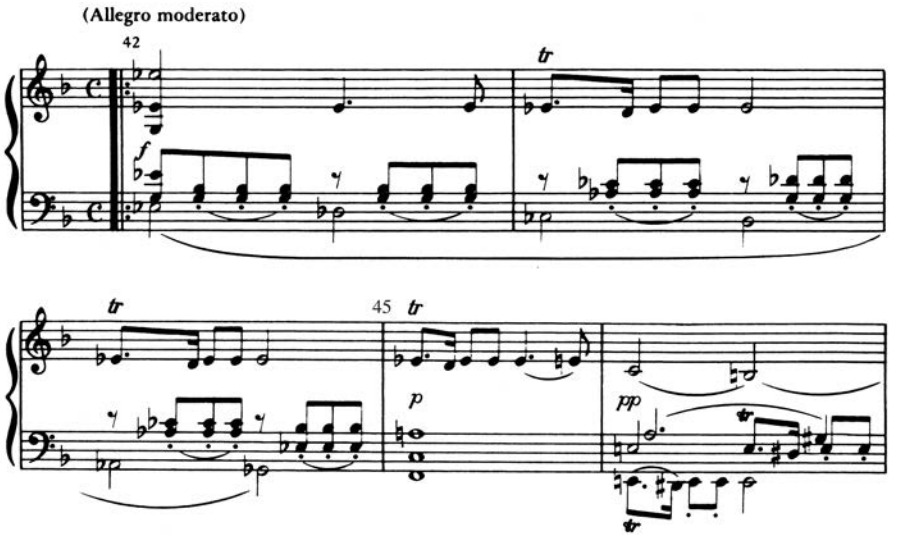
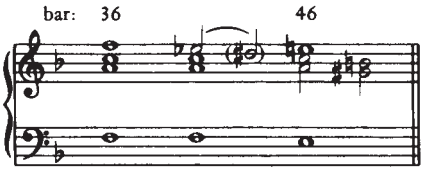
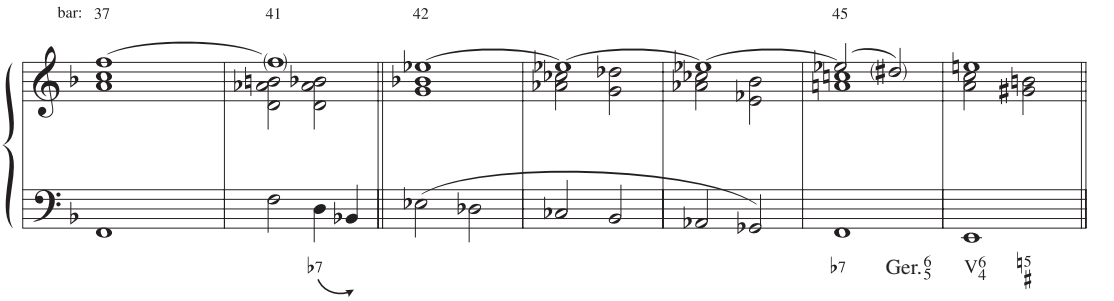
33-8

(a) Mozart, String Quartet, K. 421, I

(b) V^7 becomes German $\frac{6}{5}$

(c)



In Example 33-9, we see the opposite enharmonic transformation; a chord that begins as an Italian 6th in G major is turned into a V^7 of A♭ (bar 234). This introduces a brief tonicization of ♭II in place of an expected tonic. As it happens, the tonic is simply delayed, and not for very long. As the example shows, the amusing return to G depends on an enharmonically reinterpreted °7.

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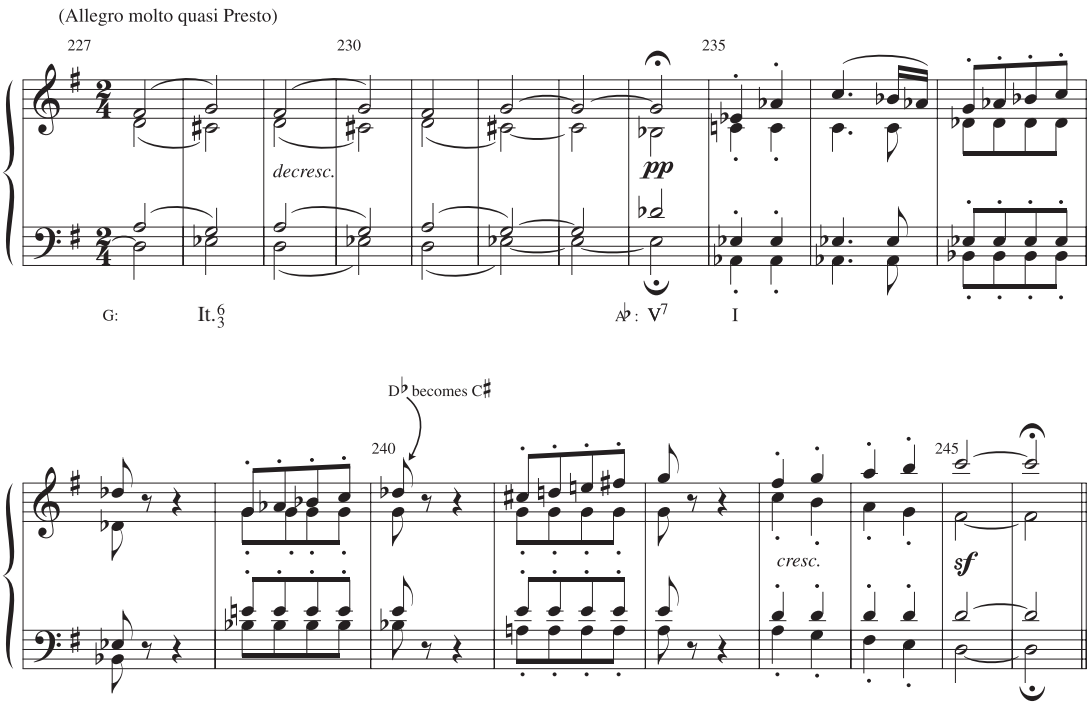
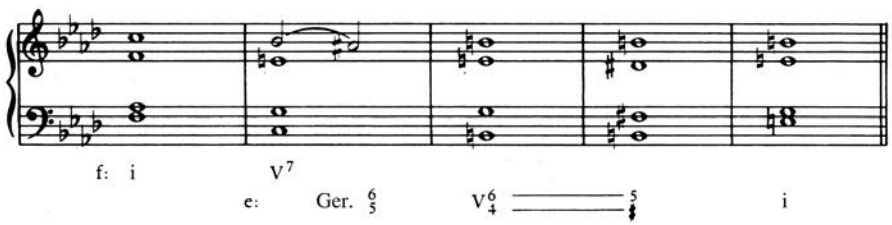
33-9 Beethoven, String Quartet, Op. 18/2, IV



In using the enharmonic connection between the German $\frac{6}{5}$ and V^7, keep the following in mind: A change from V^7 to augmented 6th occurs most simply in a modulation *down* a half step (Example 33-10a). The reverse—changing the augmented 6th into a V^7—produces a modulation *up* a half step (Example 33-10b). These modulations are possible with major, as well as minor, keys.

33-10

(a) V^7 becomes German $\frac{6}{5}$



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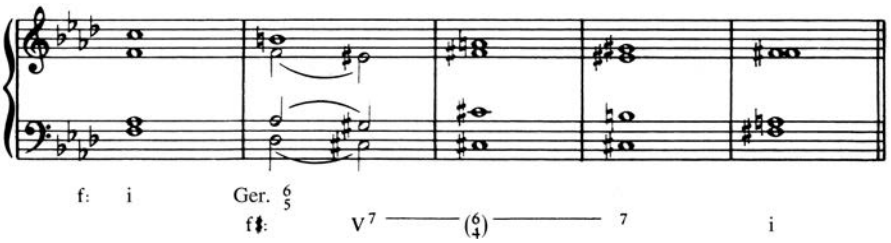
(b) German $\frac{6}{5}$ becomes V^7



Chromatic Tonal Areas

7. *Large-Scale Uses of Mixture.* The expansion of chromatically altered triads into key areas makes possible a large-scale application of chromaticism. This technique sometimes occurs in pieces of the Baroque period—most impressively, perhaps, in some of Domenico Scarlatti's harpsichord sonatas. But it was the masters of the Classical and Romantic eras who fully realized the expressive and structural possibilities of large-scale chromaticism. A most remarkable feature of their work is their ability to exploit the greatest variety of tonal areas without sacrificing the underlying diatonicism that gives unity and a sense of directed, goal-oriented progression to their compositions.

All the consonant triads that result from the three kinds of mixture can be expanded; these include major and minor triads on every degree of the chromatic scale except ♯$\hat{4}$ (Unit 31, Points for Review and Example 31-10). Tonal plans that involve these chromaticized key areas frequently resemble those that include expanded diatonic chords; however, the aural effect and the compositional meaning can differ greatly—especially with the more remote alterations. Thus, a section in C minor might represent an expanded ♮iii in A major; like diatonic iii, the C minor might subdivide the motion from I to V. But unlike diatonic iii, the C minor will create tonal conflicts that the composer must somehow work out in the composition. How a great composer resolves such conflicts depends largely on the individual character of the piece—on such factors as length, rhythm, tempo, form, motivic design, and sometimes text. Given the number of chromatic tonal areas and the number of ways a great composer can deal with them, no textbook can provide more than a sampling of the possibilities. The examples and techniques discussed here will give you an orientation to this complex material and, we hope, a basis for your own further study.

8. *♭VI in Major.* As one of the most important products of mixture, ♭VI frequently expands into a key area. The approach to expanded ♭VI can vary. Often, as in Schumann's "Widmung" (Example 33-3), ♭VI comes directly from I through a common-tone modulation. In Chopin's Impromptu in F♯ major, however, a large expansion of ♭VI is introduced by a deceptive cadence (Example 33-11).

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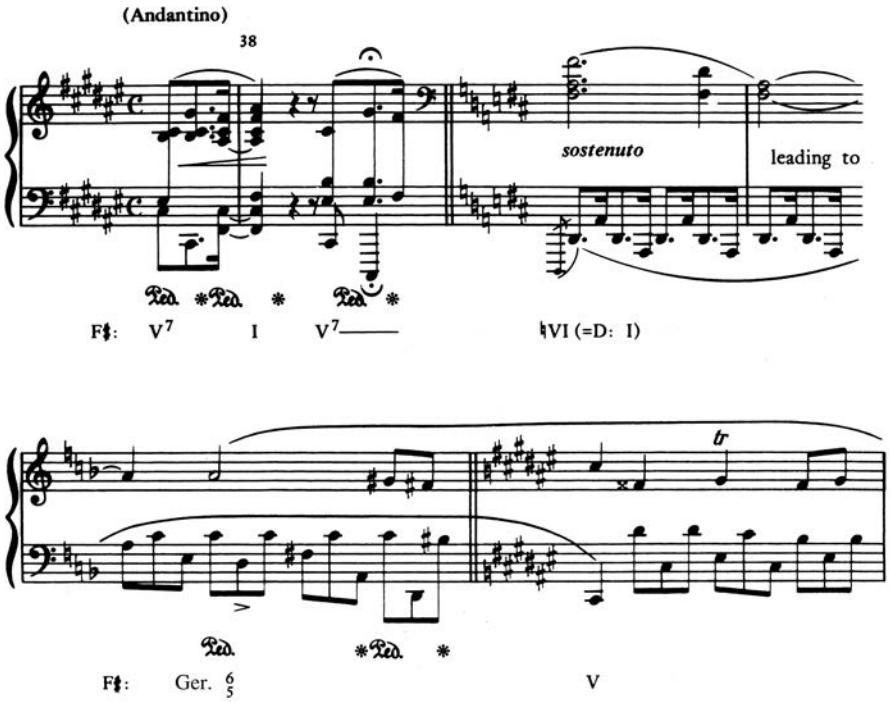
33-11 *Chopin, Impromptu, Op. 36*



The usual goal of ♭VI is a cadential V that moves on to I; the half-step progression in the bass helps to intensify the V. A most natural way of leading ♭VI to V is to transform it into an augmented 6th chord. In the Chopin, after a fantastic digression, the D chord returns as an augmented 6th leading to a V. Turning ♭VI into an augmented 6th chord is not the only way to approach V, though it is the most frequent one. In the Schumann song, ♭VI moves to V^7 through ♭II.

9. *III♯ in Major.* If the quality of a modulation were determined only by the distance in 5ths, a modulation from I to III♯ would create exactly as much contrast as one to ♭VI, for the distance is the same—four 5ths up compared with four 5ths down. However, the contrast is much greater with III♯ than with ♭VI, which belongs to the parallel minor, and which contains Î of the main key. For this reason, a modulation to III♯ (a product of secondary mixture) often requires a more elaborate preparation than does one to ♭VI. An effective way to achieve such a preparation is to transform the main tonic into an augmented 6th chord leading to V of III♯. The bridge section of Beethoven's "Waldstein" Sonata is based on this procedure; Beethoven, incidentally, was the first to use III♯ as the second key area in sonata-allegro movements in major. Example 33-12 presents a synopsis of the modulation. You will notice that the closing part of the exposition moves from E major to E minor, "resolving" the chromatic key area into its diatonic counterpart.

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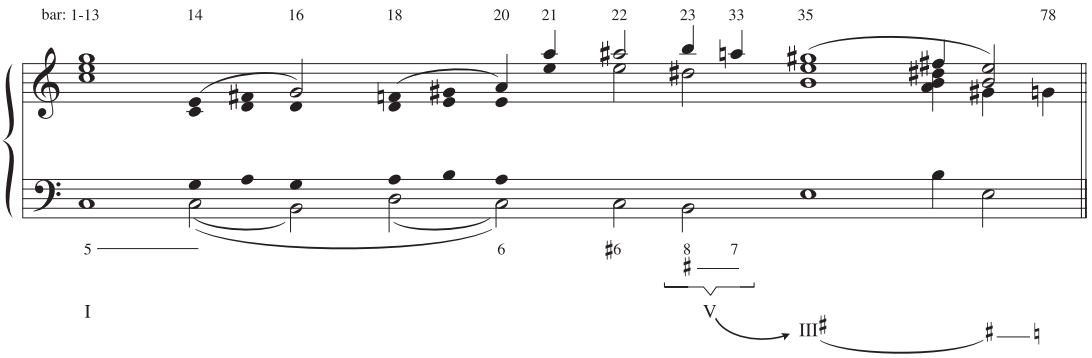
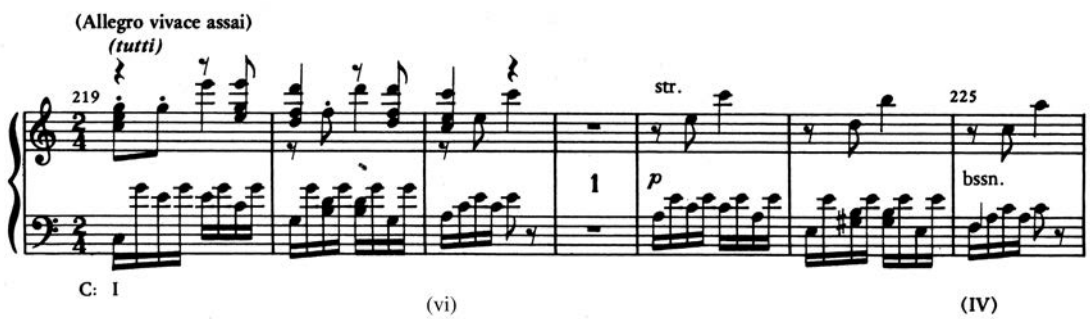
33-12 *Beethoven, "Waldstein" Sonata, Op. 53, plan of exposition*



As part of a basic harmonic structure, III♯ moves on to V, usually through a passing IV. This, in fact, happens in the gigantic development section of the "Waldstein," which begins in F major (bar 90), changes to F minor (bar 104) and, after a long transition, finally arrives at V (bar 136). Thus, the plan of this exposition and development—containing 155 bars—is essentially the same as that of the first four bars of Example 16-1—the example where we first demonstrated the function of the mediant as divider between I and V.

10. *VI♯ in Major.* VI♯ and III♯ relate to I in similar ways. Both roots lie a 3rd away from Î; both chords contain a chromatically altered factor of tonic harmony—♯Î in VI♯, and ♯5̂ in III♯. Perhaps because of these similarities, Beethoven incorporated a tonicization of VI♯ into the recapitulation of the "Waldstein's" first movement. The second theme begins in A major, changes to A minor, and moves to V of C.

Like expanded diatonic vi, expanded VI♯ most characteristically forms part of a large-scale arpeggio leading down from I to IV. This is what happens in bars 213–277 of the last movement of Mozart's Piano Concerto, K. 467; the IV, as one would expect, leads on to V and I. Example 33-13 contains the very interesting sequential passage that prepares the V of A. The sequence descends in 3rds and reaches as its goal the D-minor triad, ii of C and iv of A minor. A voice exchange introduces an augmented 6th that leads to the new V.

33-13 *Mozart, Piano Concerto, K. 467, III*

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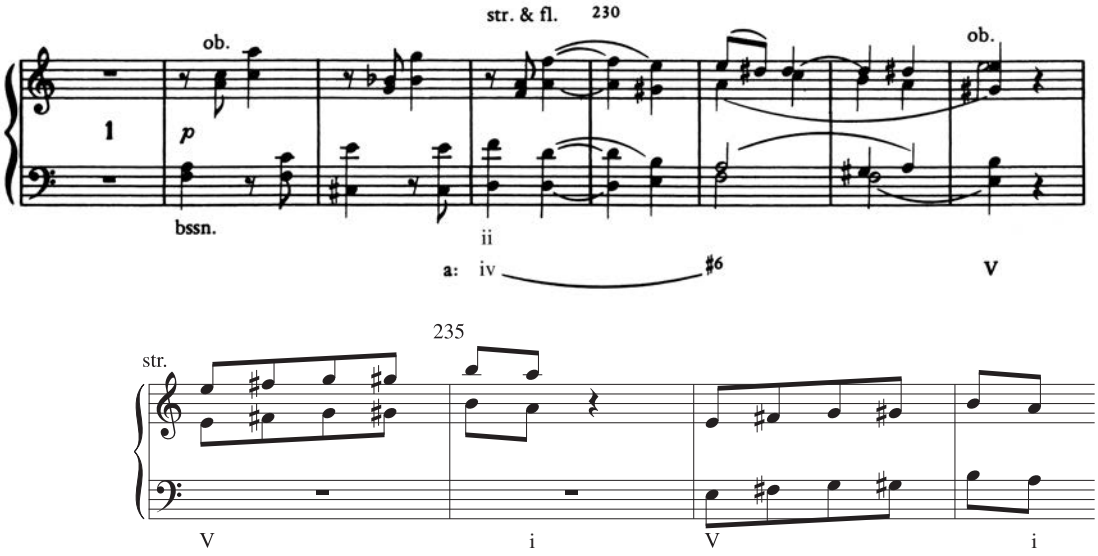
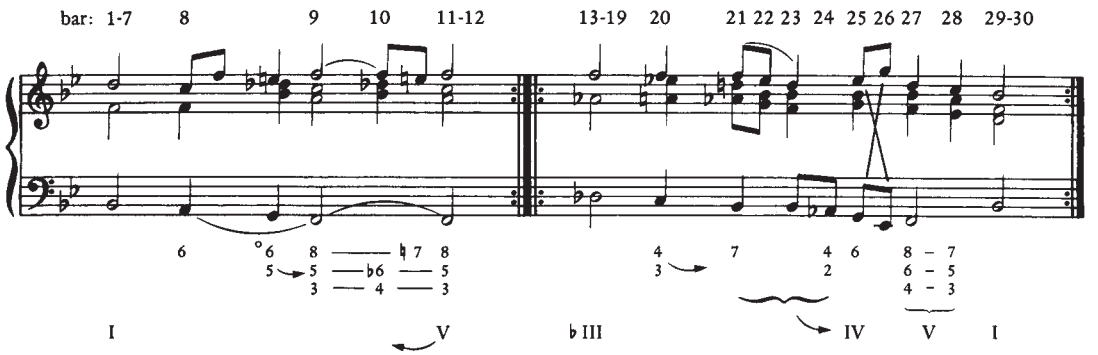

To arrive at the expanded IV (F major), Mozart simply changes A major to minor (iii of F) and moves through V^4_3 to I in F.

As you saw in Example 33-1, the first-movement exposition of Beethoven's "Hammerklavier" Sonata moves from I to VI♯ (B♭ to G). The development section contains E♭ major as a first goal. Thus, the progression I-VI♯-IV—used by Mozart for the central part of a rondo (Example 33-13)—spans the exposition and beginning of the development of a Beethoven sonata-allegro movement; compare Beethoven's use of large-scale i-VI-iv in minor, for example, in the Piano Sonata, Op. 111 and the Ninth Symphony.

11. ♭III *in Major.* The relation of ♭III to V is the same as that of ♭VI to I. As we might expect, therefore, ♭III often follows a common-tone modulation from V. This is what happens in a Brahms Waltz, the tonal plan of which appears in Example 33-14. The D♭'s in the right-hand part before the double bar help prepare the listener for the arrival of D♭ as a key area. As the sketch indicates, ♭III moves through an applied dominant to a strong IV (bar 25) that precedes the final V and I.

33-14 *Brahms, Waltz, Op. 39/8, sketch*



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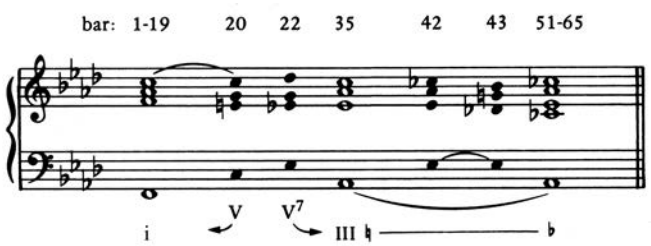
Look again at the Schubert excerpt of Example 33-4, where a common-tone modulation from V to ♭III occurs in an entirely different context.

12. *Altered Triads in Minor.* The minor mode is the normal home of ♭II—a particularly important altered chord, and one that can be expanded into a key area (Unit 29). And, as we know, pieces in minor often expand the major form of tonic harmony. Aside from these two possibilities, expansions of altered triads occur less often in minor than in major. There are several reasons for this. Altered triads containing ♯$\hat{6}$ and ♯$\hat{7}$ are difficult to stabilize, for these scale degrees create the expectation of a quick resolution to $\hat{1}$. This means that the major forms of IV and V will not normally expand into key areas; it also limits the effectiveness of ♯III and ♯VI. A second consideration is the tendency of composers to avoid an unrelieved succession of minor chords, the sonority of the minor triad creating more tension than that of the major. Therefore, such products of secondary mixture as iii♭ and vi♭ are less generally useful than are the corresponding alterations in major.

The exposition of the first movement of Beethoven's "Appassionata" Sonata (sketched in Example 33-15) shows the most frequent way of stabilizing such chords as iii♭ and vi♭. The second key area of the exposition is A♭ major (diatonic III); the A♭ major is then inflected (locally through simple mixture) so that it becomes minor (iii♭). The exposition closes in A♭ minor; as we shall see, the expansion of A♭ continues into the development section (see Section 15).

33-15 *Beethoven, "Appassionata" Sonata, I, plan of exposition*



13. *An Example of Double Mixture: ♭iii♭ Expanded.* Among the most difficult triads to expand convincingly into key areas are the products of double mixture for these can create an extreme contrast with the main key. One way of dealing with this difficulty might be to approach the altered chord in stages. Thus, a composer who wanted to express the mediant of A major as a C-minor chord might first change A major to A minor. Moving to C major would be easy; the C major might then be inflected to minor. At times, however, an immediate confrontation between the two contrasting key areas becomes a compositional necessity.

In the second number of *The Creation,* Haydn has to depict both the freshness of the newly created world and the flight to Hell of the defeated forces of chaos and darkness. These two opposing ideas are represented by sections in A major (the main tonic) and C minor. As Example 33-16 makes clear, Haydn does not at all attempt to soften the contrast between A major and C minor. On the contrary, the music moves abruptly from one to the other, plunging immediately into V^7 of C minor.

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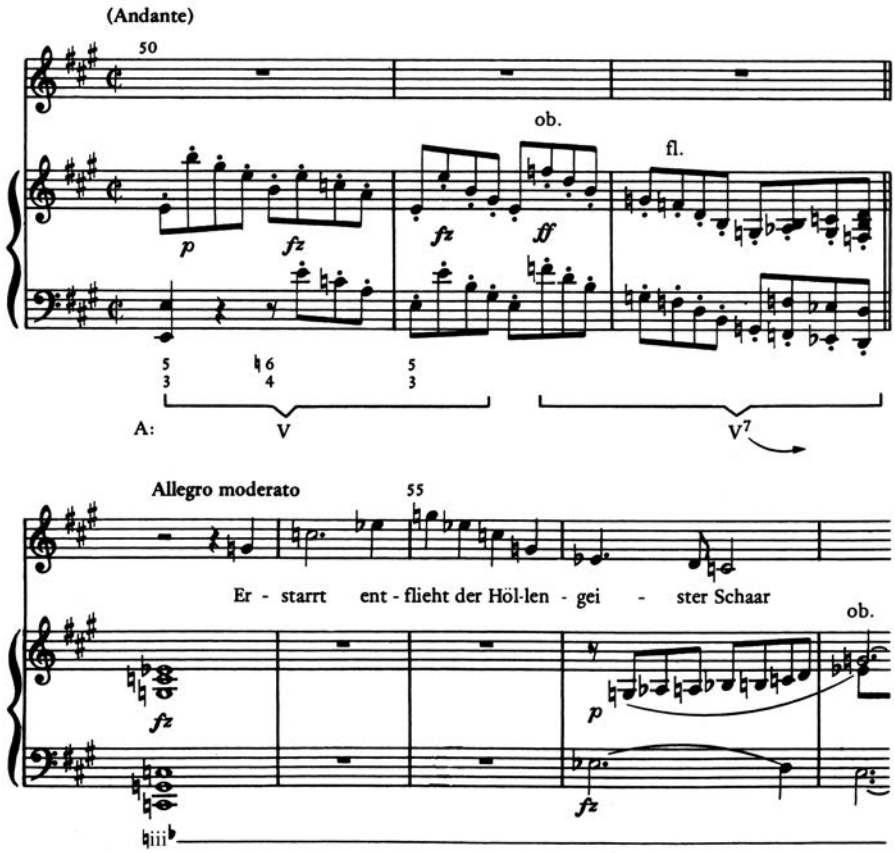
33-16 *Haydn, The Creation,* No. 2, Aria

translation: Terrified, the evil spirits of Hell retreat.

How is it that Haydn is able to achieve an integrated composition in the face of so disruptive a contrast? It is because of a most subtle connection that he establishes among the main pitches of the uppermost voice. As the sketch of Example 33-17a shows, the main top-voice tone of the C-minor section is E♭, which comes from E♮; the return to A major (and to E♮ in the soprano) is effected by an augmented 6th chord whose soprano tone, D♯, is an enharmonic transformation of E♭. Thus, the integration of C minor into the piece as a whole results partly from the enharmonic connection between E♭ and D♯. Furthermore, Haydn took great pains to emphasize D♯ as leading tone to E in the first, A major, section; Example 33-17b shows one of the many prominent D♯-E progressions. In this way, the E♭ belonging to C minor is prepared by the repeated use, in A major, of its enharmonic equivalent, D♯.*

*The contrast between E♭ (C minor) and E♮ (A major) also relates to the opening number of the oratorio, which depicts the overthrow of chaos (C minor, E♭) by God's creation of light (C major, E♮).

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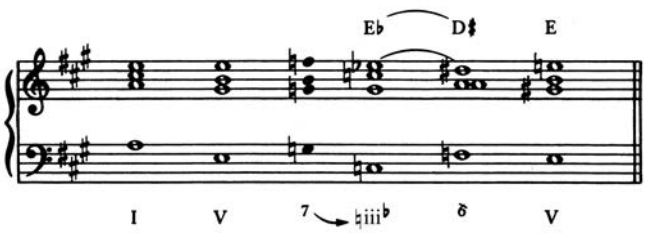
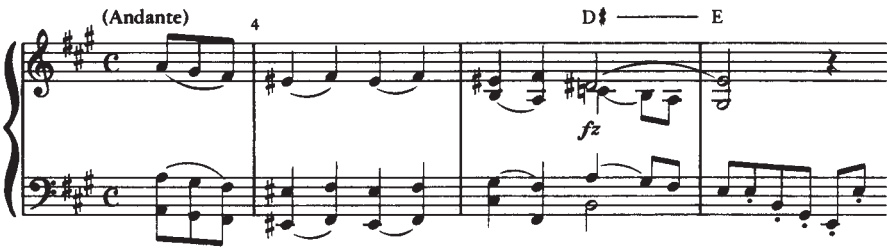
33-17

(a) Haydn, The Creation, No. 2



(b)

14. ♯IV as a Goal. Unlike the altered chords we have been discussing so far in this unit, major and minor triads built on ♯$\hat{4}$ do not result from mixture. Mostly they function as emphasized leading-tone chords to V; they can be expanded into key areas, usually of brief duration. A particularly interesting way of getting to ♯IV is to move up in two minor 3rds from I. The sum of two minor 3rds is a diminished 5th, not an augmented 4th, so the point of arrival will be ♭V, not ♯IV. If it is to act as a leading tone to V, the chord—or at least its bass tone—must be reinterpreted enharmonically. This is what happens in Example 33-18, where a motion in minor 3rds leads from G through B♭ to D♭. But in bar 46, the D♭ returns as C♯; it supports an °7 and resolves to V.

A fascinating feature of this excerpt is the enharmonic transformation of diminished seventh chords. The °7 of bar 37 is on ♯$\hat{4}$ and "ought to" resolve to V. But with enharmonic reinterpretation and some transferred resolutions (see the arrows in the example), the °7 arrives at the "wrong" dominant—at V of B♭ instead. Note that the final diminished seventh (bar 46) is also on C♯ (♯$\hat{4}$), but this time it resolves as expected. It is as if the music took the wrong turn at the diminished seventh of bar 37 and found its way only where the °7 on C♯ returns in bar 46.

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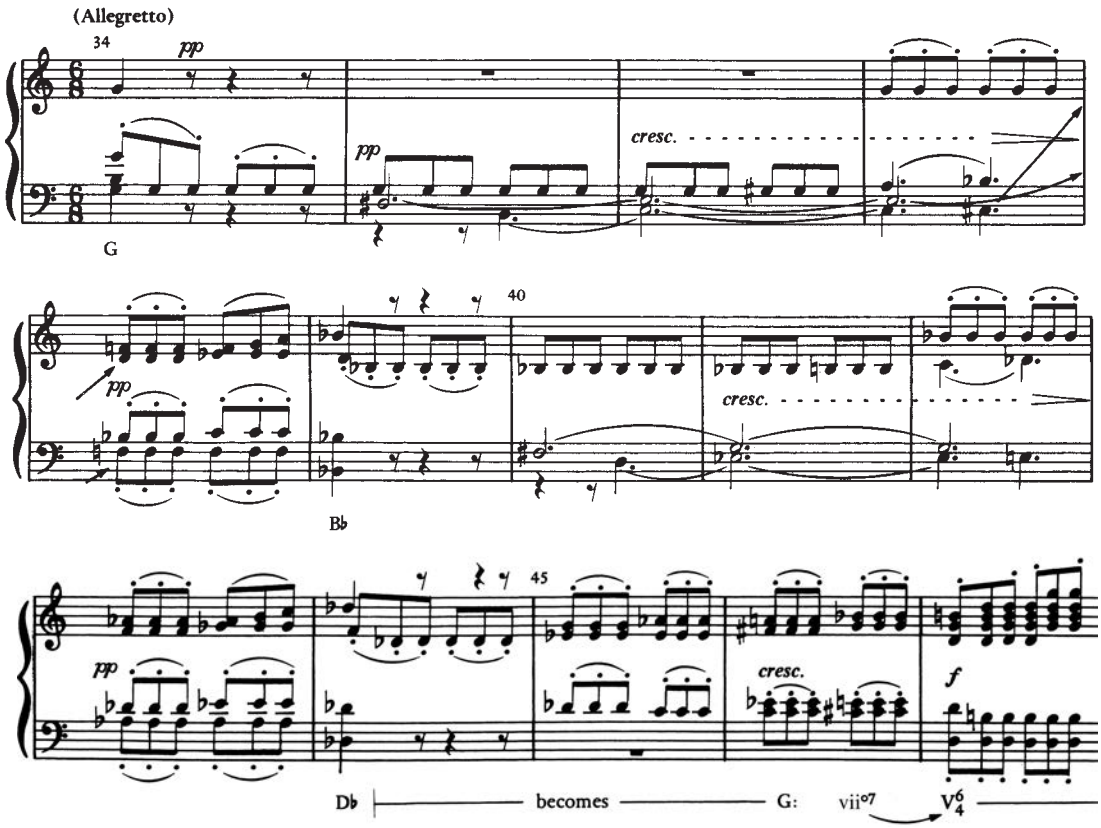
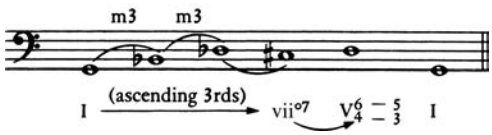
33-18

(a) Haydn, String Quartet, Op. 54/1, II

(b) bass plan

15. *Equal Divisions of the Octave.* In some nineteenth-century music, equally divided octaves (Unit 32, Sections 14–18) form the basis of extensive passages in which each intermediate chord is expanded. A famous example occurs in the development section of the first movement of Beethoven's "Appassionata." You may recall that the exposition closes in A♭ minor (Example 33-15). At the beginning of the development, the A♭ changes to G♯ and moves (common-tone progression) to E major. The E major turns to minor; then the motion continues in major 3rds to C minor and, again, to A♭, but A♭ major. Thus, the A♭ chord is expanded by the motion in major 3rds. As Example 33-19 shows, A♭ becomes V^7 of D♭, the first main goal of the development.

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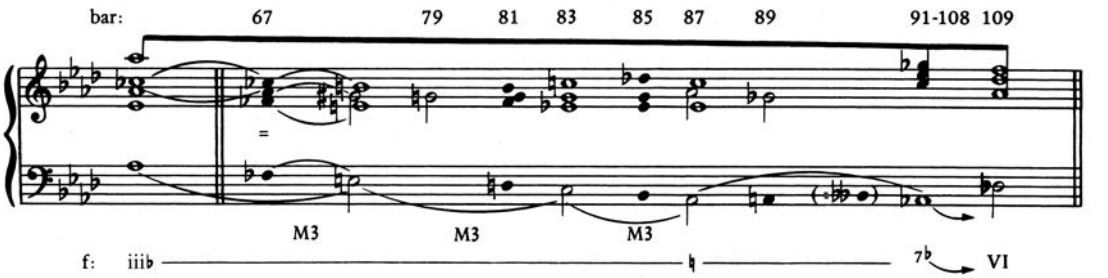
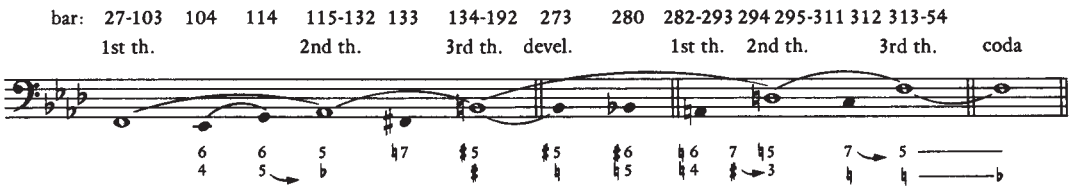
33-19 *Beethoven, "Appassionata" Sonata, I, plan of first half of development*



A particularly ambitious application of equal divisions occurs in the first movement of Tchaikovsky's Fourth Symphony. The exposition contains three main themes, each in a different key area: F minor, A♭ minor, and B major. The recapitulation resumes the motion in minor 3rds, the first theme sounding over a dominant pedal in D minor and the second and third in D minor and F major; the coda restores F minor. Example 33-20 shows the plan; in its avoidance—even contradiction—of a large-scale tonic–dominant relationship, it is scarcely tonal, at least in a traditional sense.

33-20 *Tchaikovsky, Symphony No. 4, Op. 36, I, plan*



16. *Motivic Aspects of Large-Scale Chromaticism.* One of the most fascinating aspects of great music is the way large-scale plan relates to detail—the way, for example, key areas project over a long span of time those pitch relationships that are most characteristic of the piece. Thus, in Chopin's F♯-major Impromptu (Example 33-11), an expanded D major (♮VI) leads to V, the large-scale bass motion being D♮-C♯. Now, in the opening section of the piece, the motive D♯-C♯ occurs over and over, in all voices. Surely the inclusive bass progression D♮-C♯ and the repeated motivic detail, D♯-C♯, are not unrelated; Chopin probably chose D major as a key area partly because it made possible a huge enlargement of a basic motivic idea.

Motive and inclusive plan are even more closely correlated in the first movement of the "Appassionata." The movement is permeated to an almost unbelievable extent by the constantly recurring figure $\hat{5}$-$\hat{6}$-$\hat{5}$ (in F minor, C-D♭-C, sometimes shortened to D♭-C). The D♭-major goal in the development (Example 33-19) results from an enlargement of this figure. Furthermore, the unusual turn toward A♭ minor in the exposition permits a transposition of the basic motive to E♭-F♭-E♭;* the motion in major 3rds at the beginning of the

*See, for example, bars 41–50, bars 54 and 58, left-hand part, and so on.

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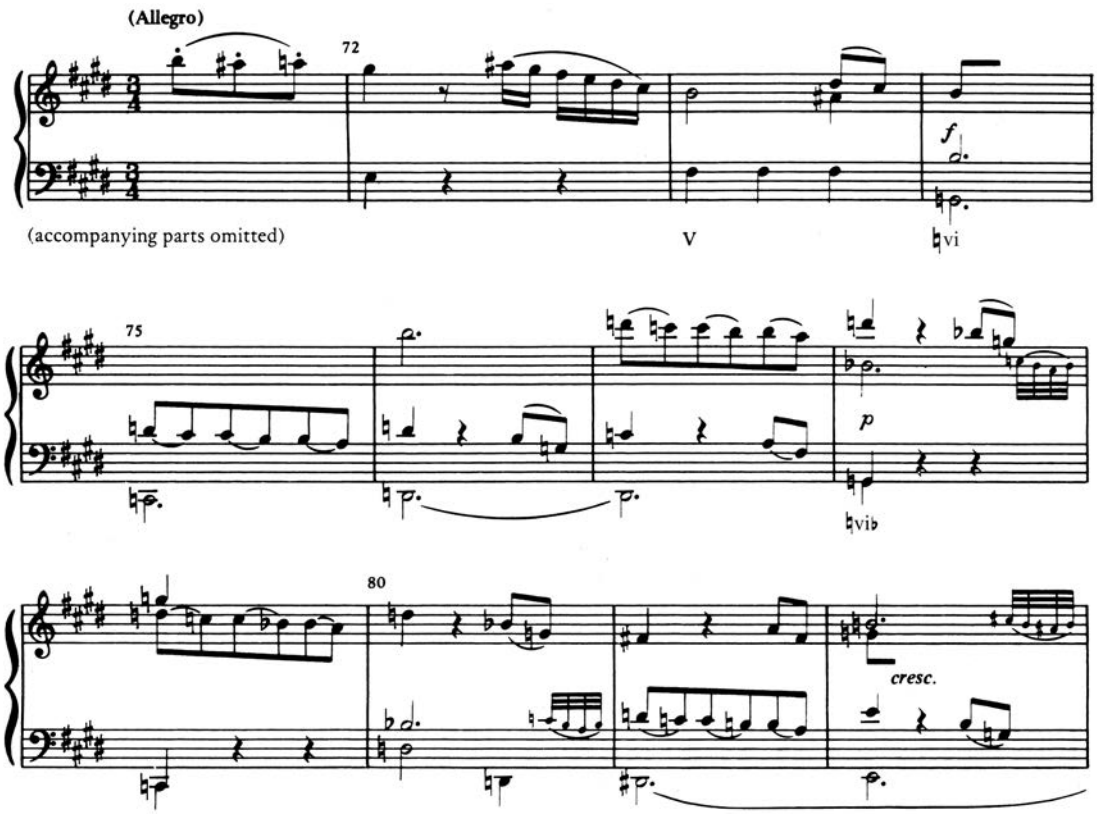
development (Example 33-19) contains the transposed motive enharmonically reinterpreted (E♭-E♮-E♭).

In the first movement of the "Hammerklavier," the modulation to G major is connected with the recurrent chromatic progressions F♮-F♯ and B♭-B♮ (Section 1 of this unit). And the strange modulation from A major to C minor in *The Creation* (Examples 33-16 and 33-17) has to do with the transformation of a motivic D♯-E ($\hat{\sharp 4}$-$\hat{5}$) into a vastly enlarged E♭-D♯-E♮.

For our final example we shall discuss a highly chromatic passage from the first movement of Mozart's Piano Trio in E, K. 542 (Example 33-21). The passage begins when a deceptive cadence on ♮VI (G major) prevents the expected resolution of the second theme to I of B major. The G major is not followed by a quick relaxation of tension; most surprisingly, it is inflected to become G minor (♮vi$^{\flat}$). A wonderful transitional passage, based partly on an enharmonically reinterpreted °7 (E♭ becomes D♯), leads to V and a strong authentic cadence.

33-21 *Mozart, Piano Trio, K. 542, I*

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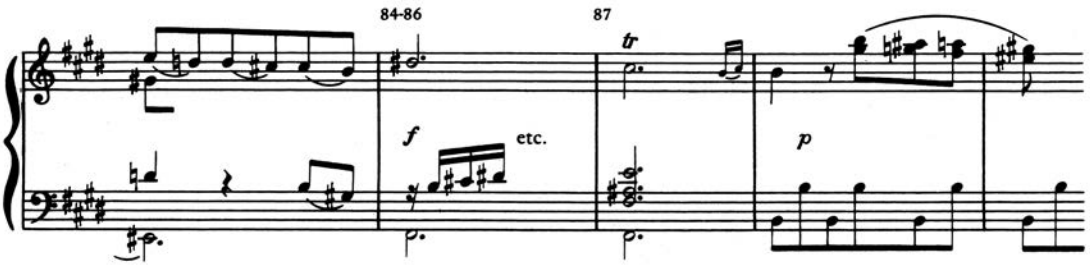
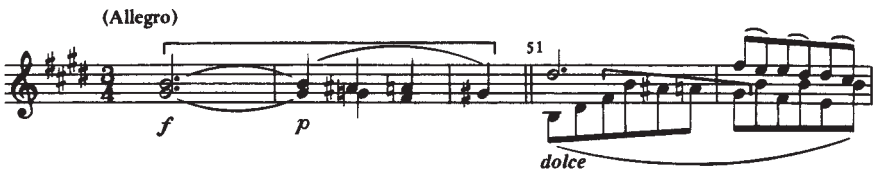
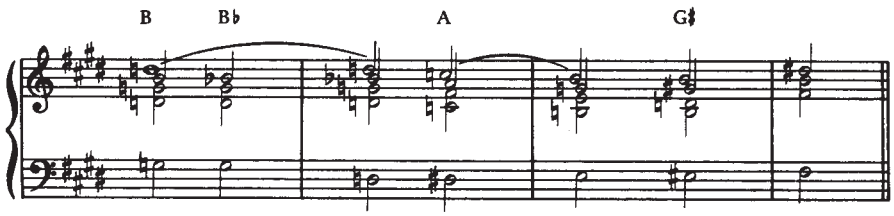


These events—and, in particular, the remarkable change to G minor—have their roots in a basic motivic element of the piece. The movement opens with a descending chromatic figure, B-A♯-A♮-G♯, which is quoted in the second (B major) section of the exposition. Example 33-22 shows two statements of this motive; compare bars 71 and 88, Example 33-21. If you now study the reduction of the chromatic passage presented in 33-22c, you will note the prominent chromatic line B♮-B♭-A-(G♮)-G♯. What is this but an expanded transformation of the motive, with the A♯ expressed as a B♭. Without the mixture of G major and minor, the melodic progression B♮-B♭ and the motivic reference could never have been achieved. But without the motivic implication, the G minor would make little sense, for it would lack any organic connection with the movement as a whole.

33-22 *Mozart, K. 542, I*

(a) *(b)*

(c) reduction of K. 542, I



It is interesting to compare this excerpt with the first example in Unit 1, also drawn from a work by Mozart—the C-major Piano Sonata, K. 545. In their use of the tonal language, the two excerpts could hardly be more divergent, with the simplest diatonic relationships on the one hand and the most daring chromaticism on the other. Yet, these passages are not only from works of the

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same composer, but from works completed within a few weeks of each other (on June 2 and 26, 1788). That Mozart could produce two such contrasting masterpieces at virtually the same time is testimony to the immense scope of his genius. It is equally a tribute to the tonal system that made possible the creation of so rich a repertory of masterworks. As for the system itself, it must rank among the great achievements of the human spirit.

POINTS FOR REVIEW

1. A type of modulation that sometimes accompanies the large-scale use of chromaticism is *modulation by chromatic inflection,* where the motion to the pivot chord involves a chromatic melodic progression such as F♮-F♯.
2. A *modulation by common tone* is one where there is no pivot chord and where a prominent common tone—usually in the soprano—forms the connecting link. Common-tone modulations sometimes also involve a chromatic inflection; frequently they occur in connection with a chord progression down a 3rd between two major triads (example: C major–A♭ major).
3. Two key areas can be connected by a *chromatic sequence.*
4. There are two main types of enharmonic equivalence: notational (for convenience of reading or projecting an expressive nuance) and true or functional (in which the melodic function of a tone changes). In an *enharmonic modulation,* the pivot chord is reinterpreted enharmonically. The two most important possibilities are those in which a diminished 7th chord is reinterpreted and those in which a V^7 becomes a German $\frac{6}{5}$ or vice versa.
5. The expansion of chromatically altered chords forms an important possibility for large-scale chromaticism. Such expansions occur somewhat more frequently in major than in minor, expanded ♭VI being a particularly important possibility. Expanding the more remote alterations can enrich the possibilities for tonal variety; at the same time, it can threaten the continuity and unity of a composition. The solution to this problem varies according to the individual character of a piece; one frequent solution is to relate the large-scale chromaticism to the motivic design.

EXERCISES

1. Preliminaries.
   a. Using a modulation by chromatic inflection, write a phrase or phrase group that modulates from G major to E major and back.
   b. Using a common-tone modulation, write a phrase or phrase group that moves from F♯ major to D major and that returns to the main tonic through an augmented 6th chord.
   c. Write a sequential progression that begins on a B♭-major triad and that briefly tonicizes every chromatic step from B♭ down to G major. Lead the G-major chord to a cadence in B major; then think of the B major as ♭II of B♭ and return to the original tonic.

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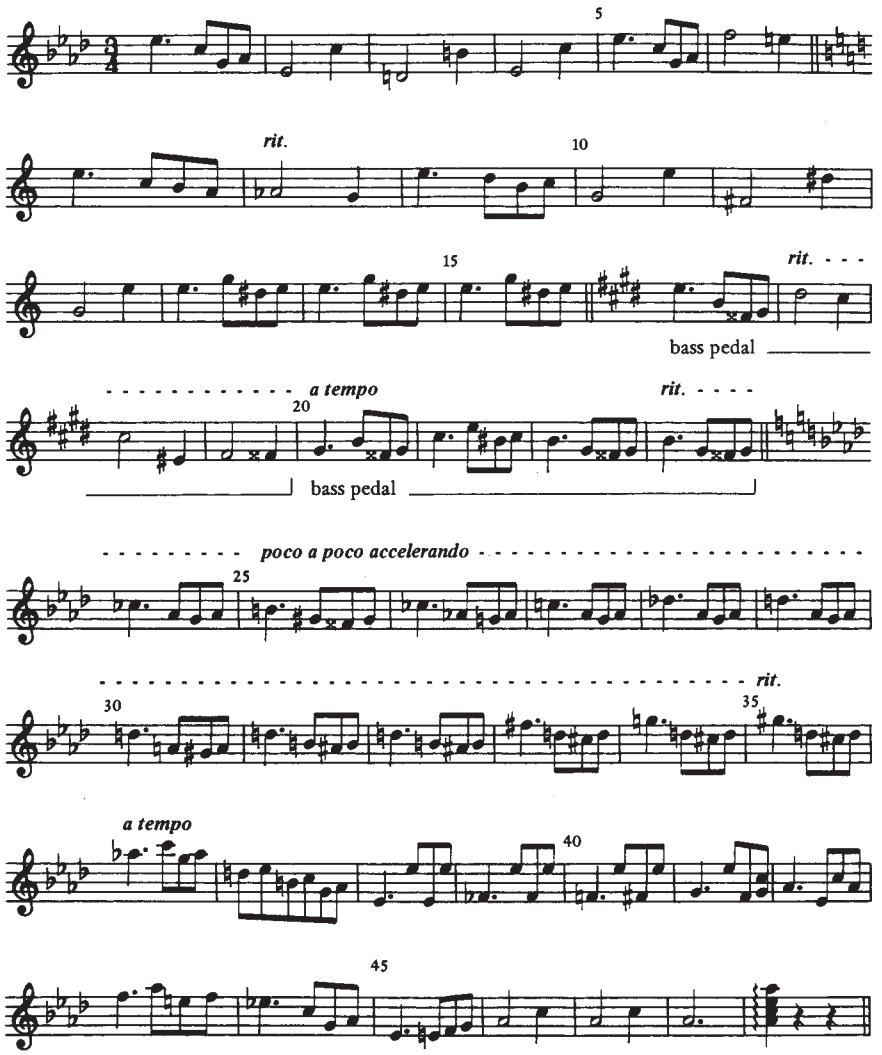
d. Write at least six different modulations, each starting in A minor and employing the enharmonic reinterpretation of vii^{o7}. Remember that $^{\circ}7$ can move directly to a new tonic, that it can be an applied chord, that it can embellish a V^7, and that it can be a common-tone chord.
e. Write a phrase that begins in C♯ minor and modulates to C minor using the enharmonic relationship between V^7 and the German $\frac{6}{5}$.

2. Waltz. Set for keyboard, using typical waltz accompaniment. Don't forget the possibility of chromatically filled-in voices exchanges.

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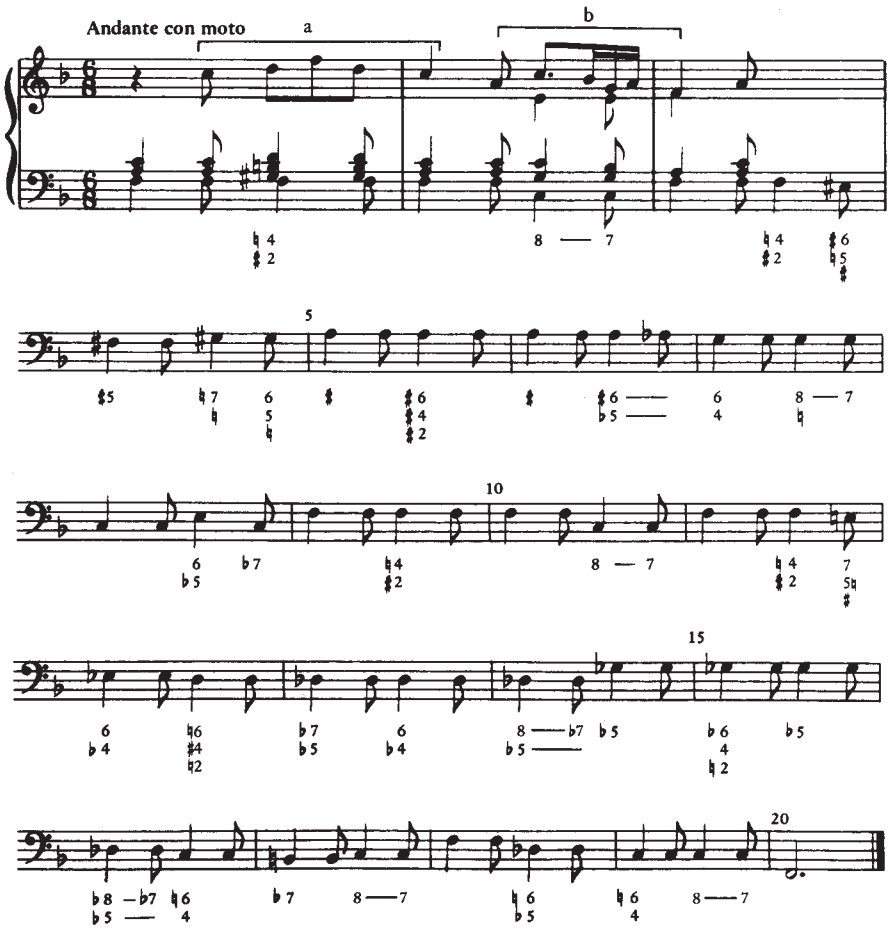
3. Figured bass. Set for keyboard, making use of the melodic ideas labeled (a) and (b). Depending on the setting of the soprano, you can interpret the given figures somewhat freely, especially with respect to the rhythmic placement of the notes.

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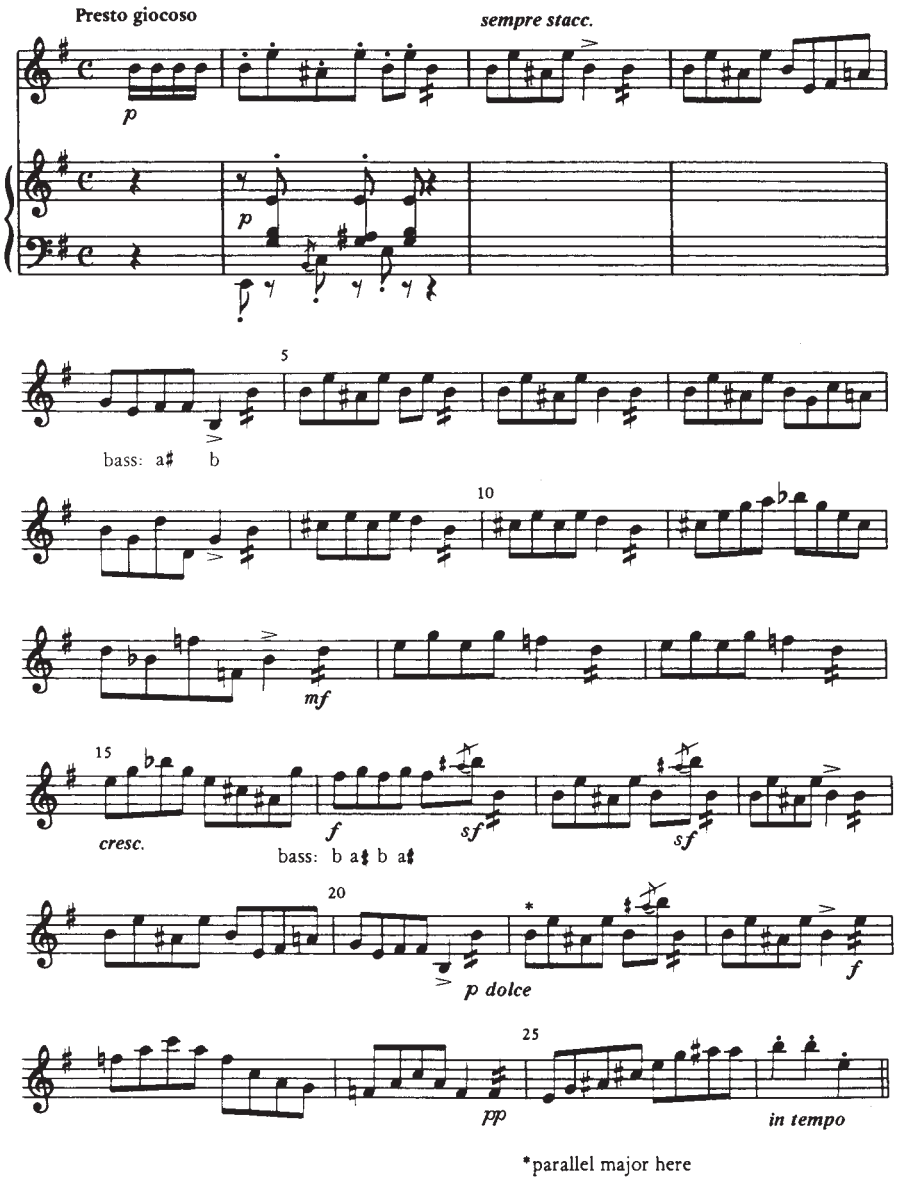
MINDTAP
Guided Exercises
This exercise's step-by-step audiovisual solution is available on MindTap.

4. Melody. Set for violin and piano. Common-tone chords are a feature of this exercise.

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Appendix

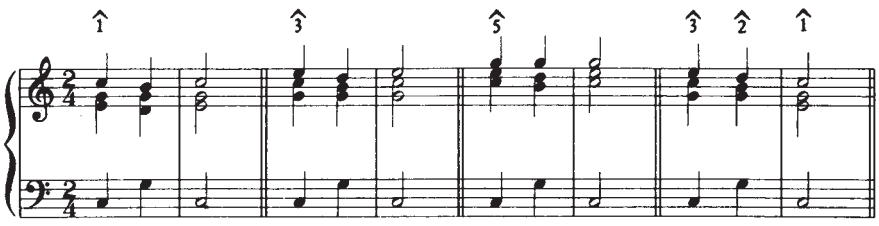
I Keyboard Progressions

The following progressions illustrate the most important techniques covered in Units 7–33. They are designed to be played at the piano and are notated in C throughout for your convenience in transposition. Your goal should be to get them well enough into your head and fingers to be able to play them fluently through at least the first four sharp and flat keys, major and minor.

We have not attempted to include every possible soprano voice; finding other possibilities will be good practice for you. You can incorporate some of the shorter progressions into longer and more continuous ones, as we did in (d) of Unit 9, for example; in this way, you will gain experience in improvising phrases and phrase groups.

Unit 7: I, V, and V^7

Don't forget to raise $\hat{7}$ in minor! In (e)-(h), pay particular attention to the resolution of the 7th.

(a) (b) (c) (d)

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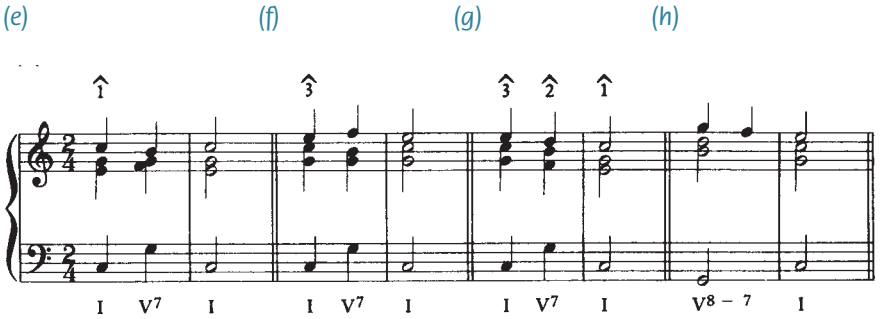
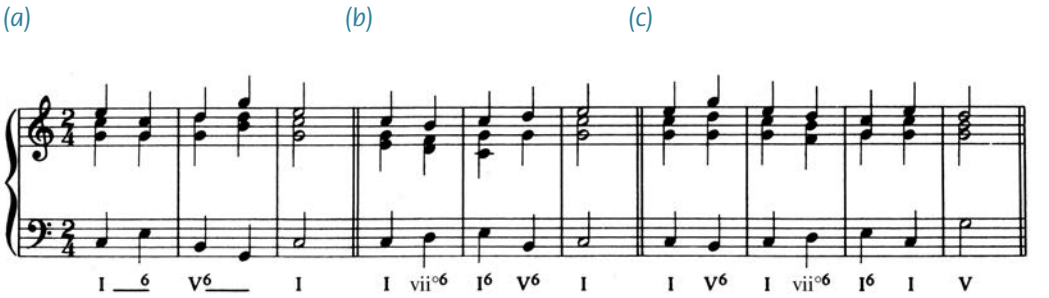
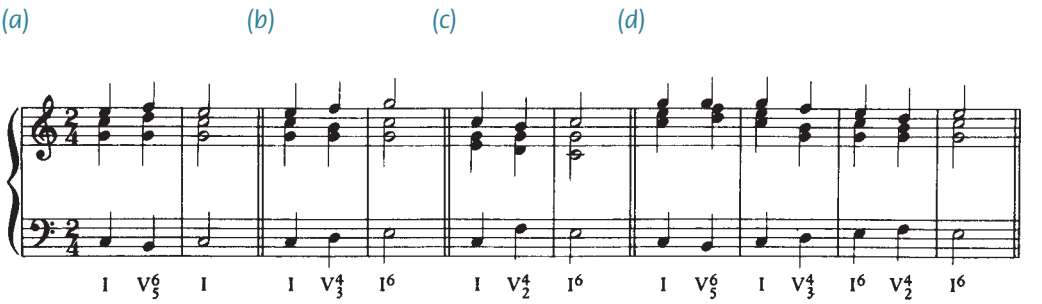


Unit 8: I6, V6, and vii°6

Progressions (a) and (b) can function as expanded initial tonics and can lead to a V-I cadence; (c) can continue to a final I.



Unit 9: Inversions of V7

Many other sopranos are possible. Use these progressions to expand I, and then lead to either an authentic cadence or a semicadence.

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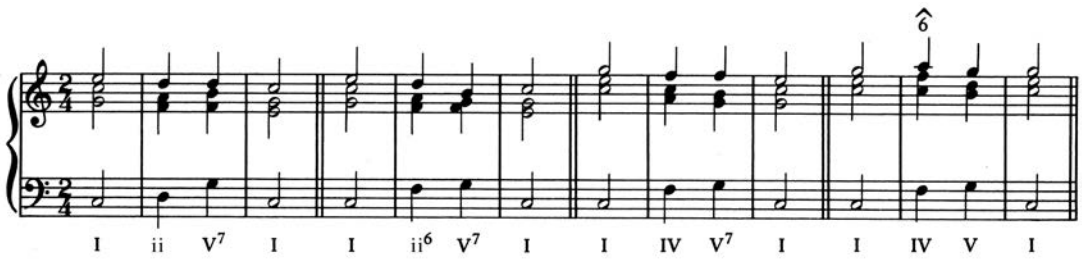
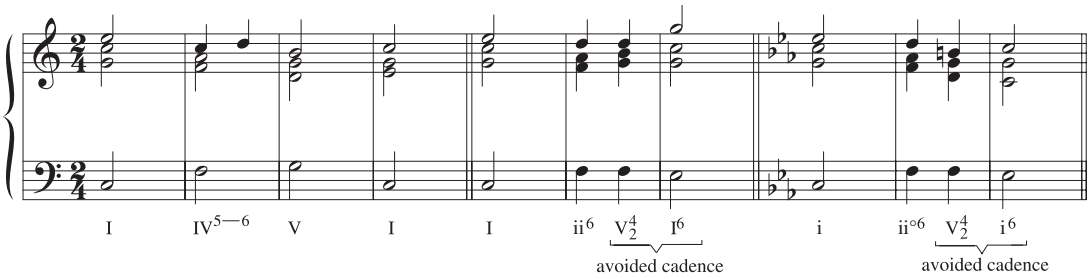
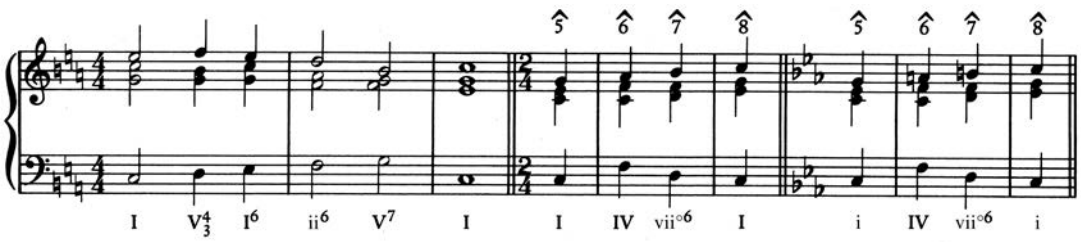
Unit 10: Leading to V: IV, ii, and ii⁶

The initial tonics of (a)–(d) can be expanded by the progressions of Units 8–9; cadences using IV and ii can follow.

(a) major only *(b)* *(c)* *(d)*

(e) *(f) major* *(g) minor*



(h) *(i) major* *(j) minor*



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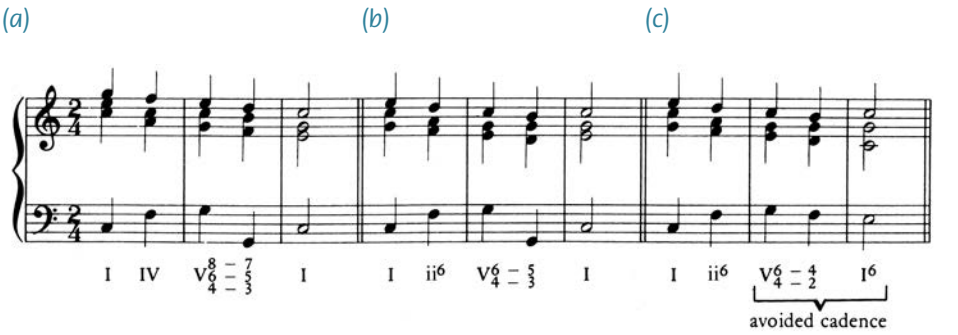
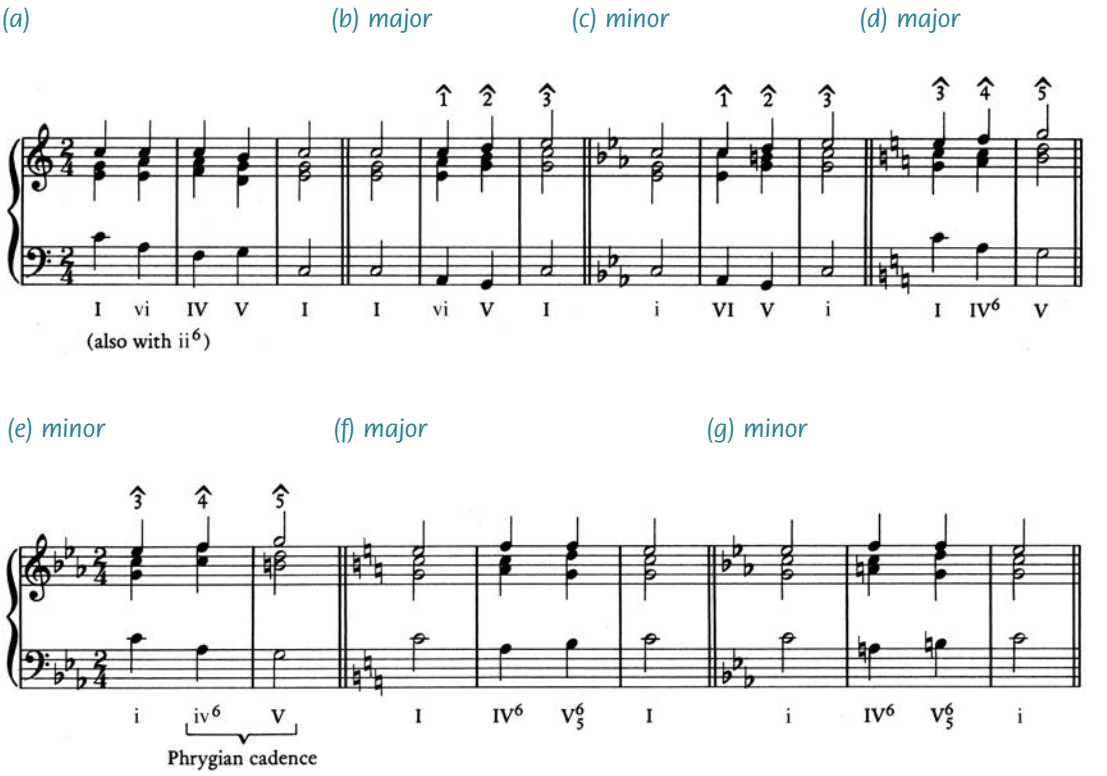
Unit 11: The Cadential $\frac{6}{4}$

Using progressions learned in Units 8–10, play antecedent–consequent phrase groups; both semi- and authentic cadences should feature $\frac{6}{4}$ on V.



Unit 12: vi and IV⁶

Other sopranos are possible for (a) and (e). Expand the initial tonic of (a) and (b); incorporate (c), (d), and (e) into longer progressions.



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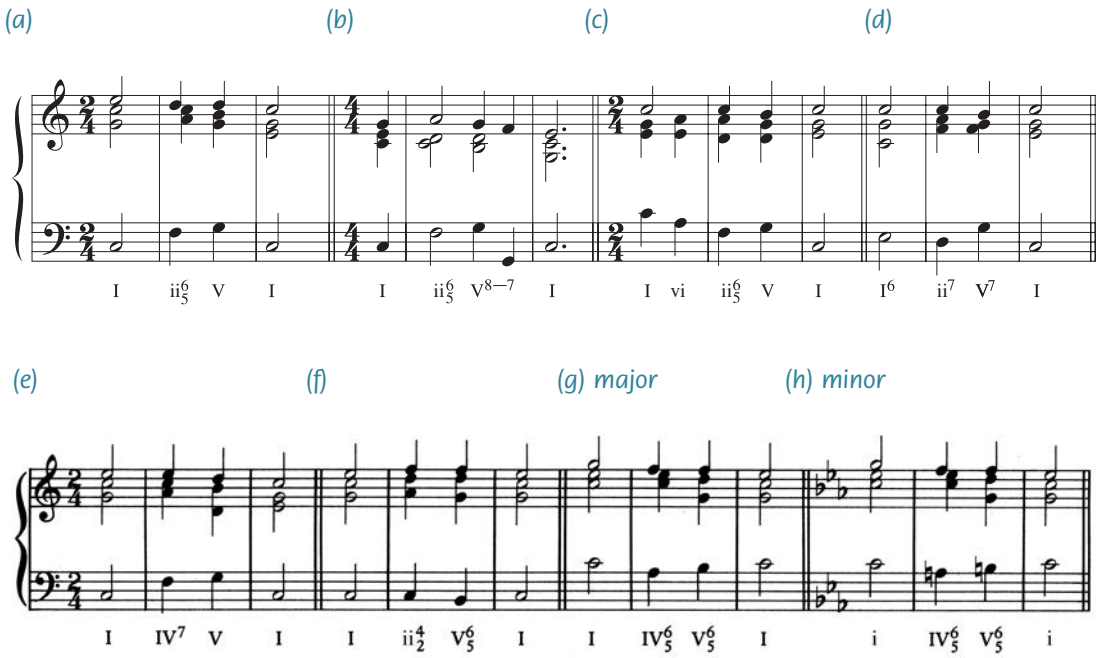
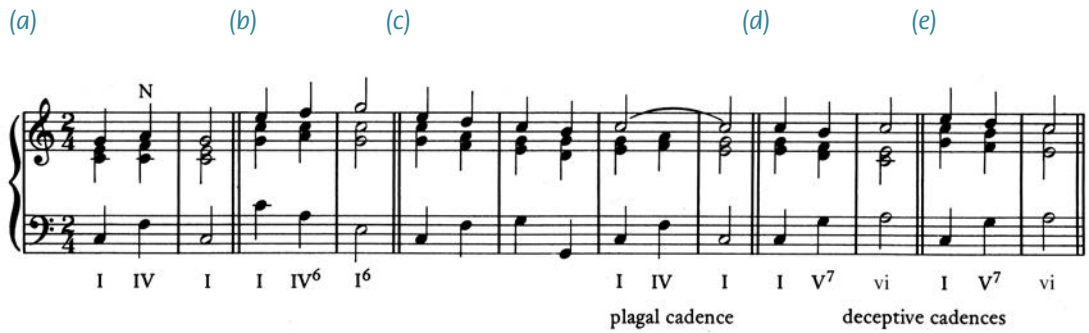
Unit 13: Supertonic and Subdominant Seventh Chords

Practice (a), (b), and (c) with other sopranos; (f), (g), and (h) can lead to cadential progressions.



Unit 14: Other Uses of IV, IV^6, and vi

After the deceptive cadences, play authentic ones to complete the progressions. In addition to the progressions given here, practice the scale harmonizations in Examples 14-17 and 14-18.



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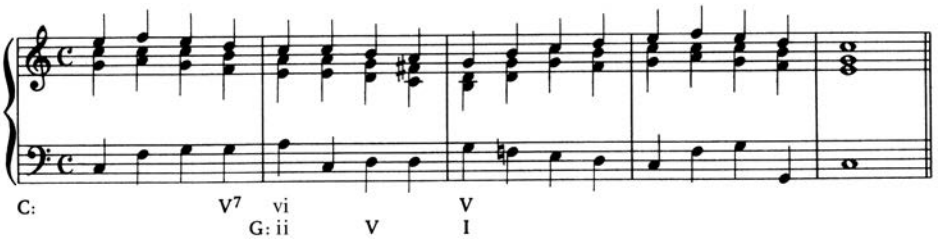
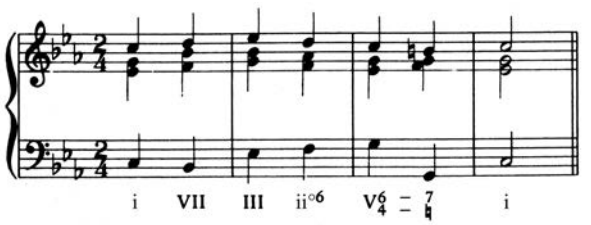
Unit 15: V as a Key Area

Many other possibilities exist for progressions that tonicize V and return to I. Invent progressions using other pivot chords than the ones used here.

major only

Unit 16: III and VII

The progression given here works only in minor. In addition, practice the scale harmonization in Example 16-11.



Unit 17: $\frac{5}{3}$-Chord Techniques

Keyboard progressions using only $\frac{5}{3}$ chords are most common in sequences; they will therefore be presented in the following group for Unit 18.

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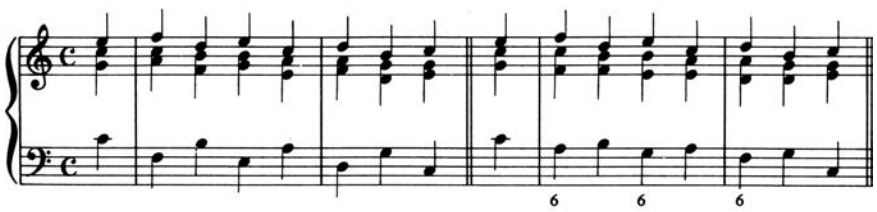
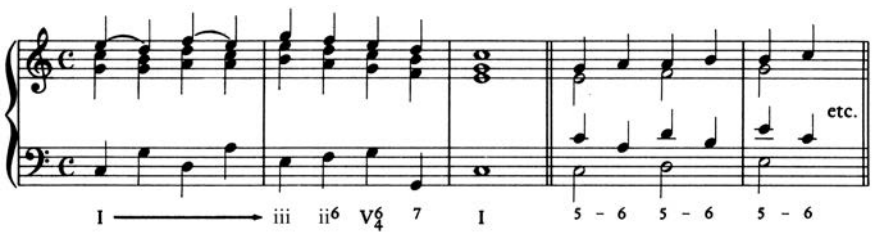
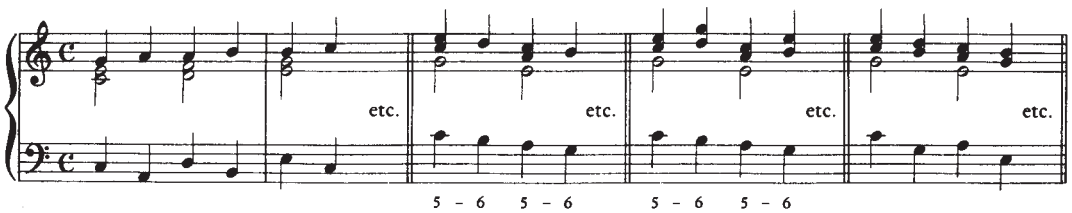
Unit 18: Diatonic Sequences

Other sopranos are possible for some of these progressions, especially (a), (c), (d), (e), and (g). In (d), the progression is easier in four voices if the left hand plays the tenor; alternatively, the tenor may be omitted.

(a) descending 5ths (model) *(b) $\frac{6}{3}$ variant of (a)*

(c) ascending 5ths major only (model) *(d) ascending 5-6 (model)*



(e) $\frac{5}{3}$ variant of (d) major only *(f) descending 5-6 (model)* *(g) descending 5-6 (model)* *(h) $\frac{5}{3}$ variant of (f)*



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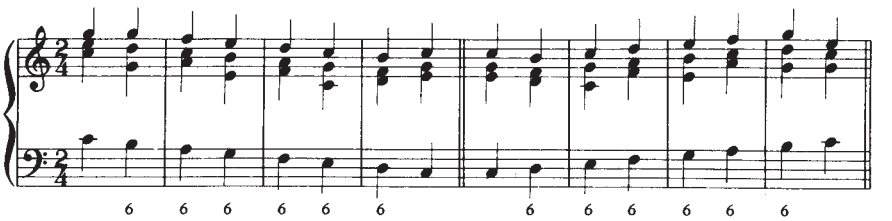
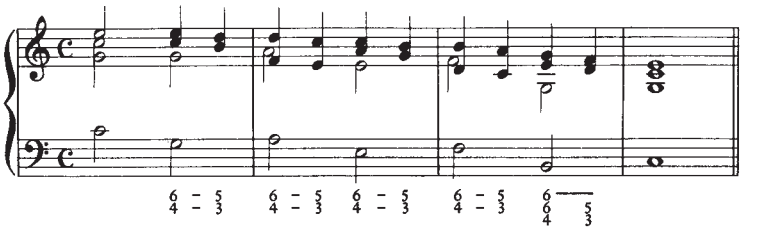
Unit 19: $\frac{6}{3}$-Chord Techniques

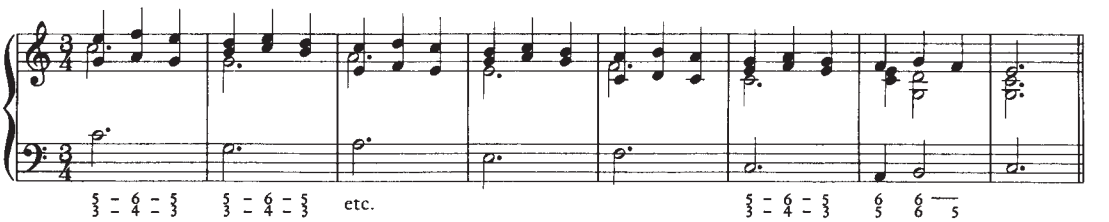
These progressions show the alternating doublings characteristic of parallel $\frac{6}{3}$ chords in four voices. Performance in three voices is also possible, omitting the tenor, but be sure to include the 3rd in $\frac{5}{3}$ chords.

(a) *(b)*

Unit 20: $\frac{6}{4}$-Chord Techniques

The most important $\frac{6}{4}$ usages are summarized in these progressions.

(a) accented $\frac{6}{4}$



(b) neighboring $\frac{6}{4}$

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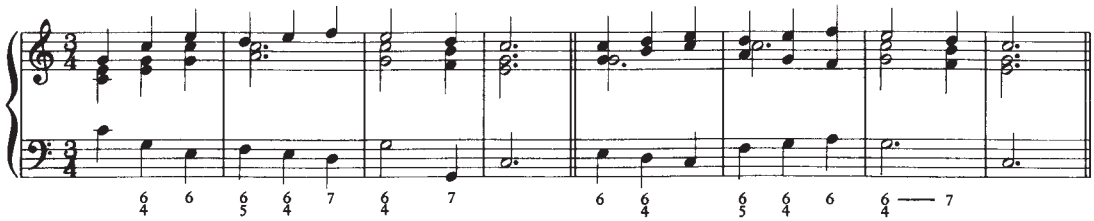
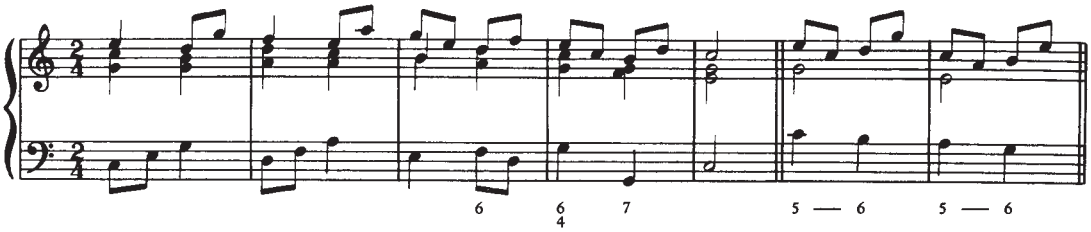
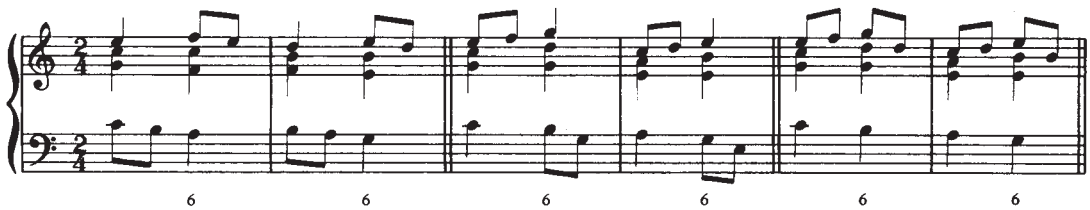
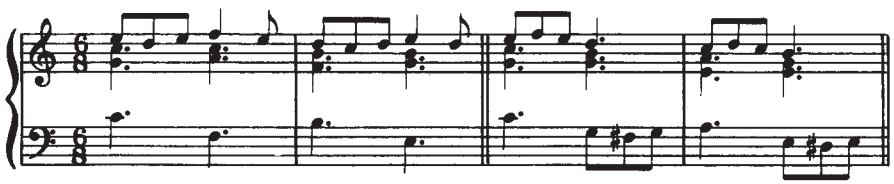
(c) consonant and passing $\frac{6}{4}$ (d) passing $\frac{6}{4}$

Unit 21: Melodic Figuration

These exercises are based on sequences already familiar to you. The first is a complete phrase; the others should be continued and led to a cadence.

(a) major only (b)



(c) (d) (e)

(f) (g)

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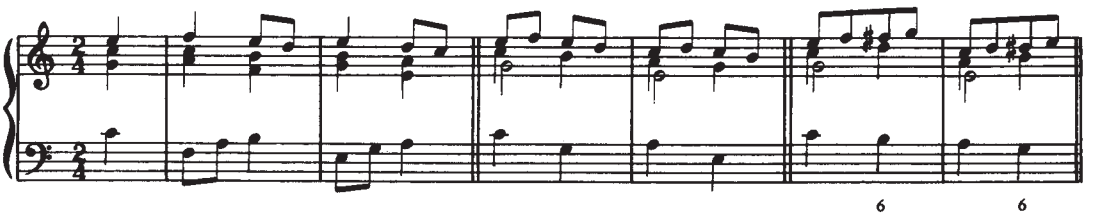
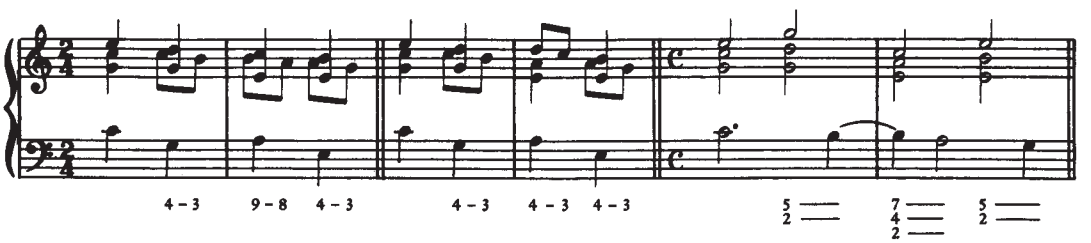
(h) (i) (j)

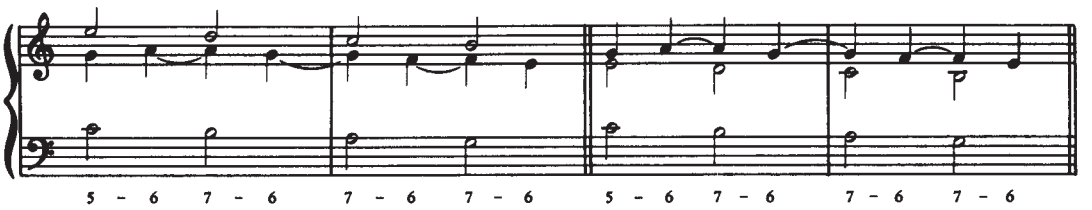


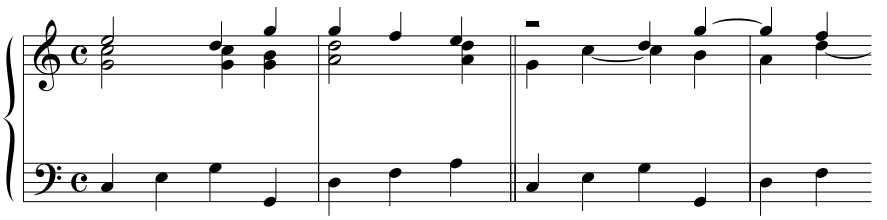
Unit 22: Rhythmic Figuration

Lead these sequential progressions to cadences. At the cadences, use anticipations in the soprano where appropriate.

(a) (b) (c)



(d) (e)

(f) major only (g) canonic variant of (f) major only



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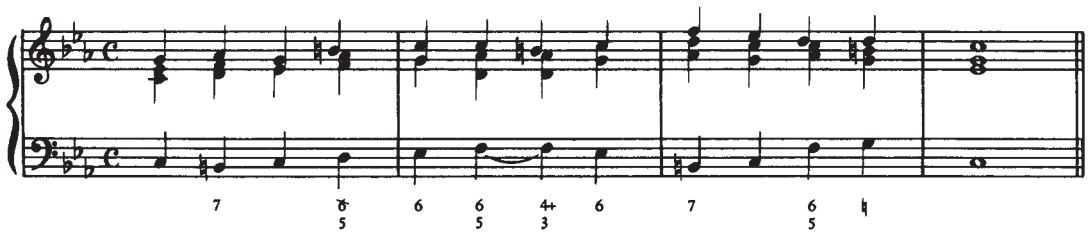
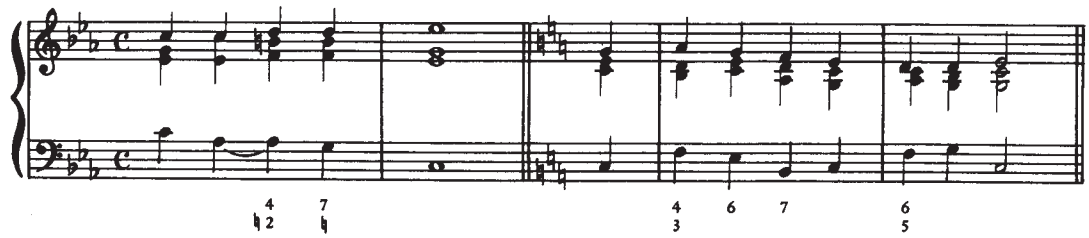
Unit 23: Leading-Tone Seventh Chords

In addition to playing (c) as written, alter the upper voices to produce °7's on the second and fourth chords.

(a)

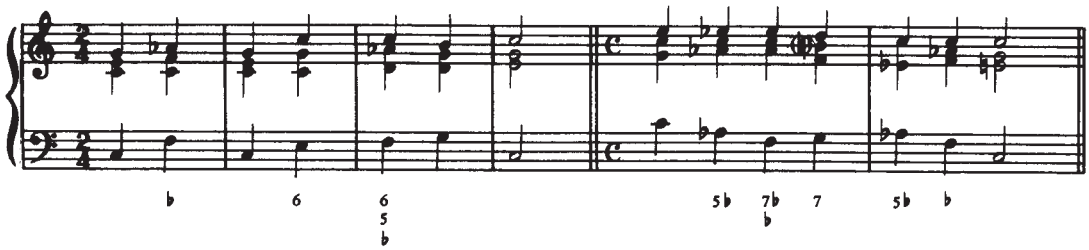


(b) *(c) major only*



Unit 24: Mixture

Invent phrases in major followed by parallel phrases in minor.

(a) major only *(b) major only*

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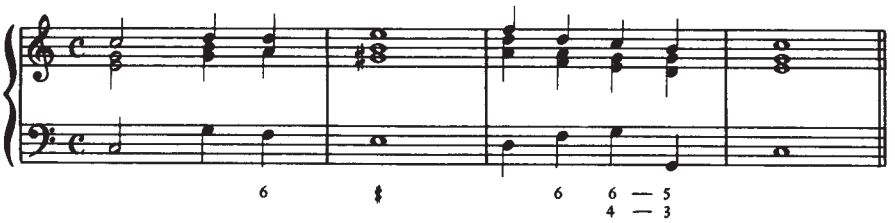
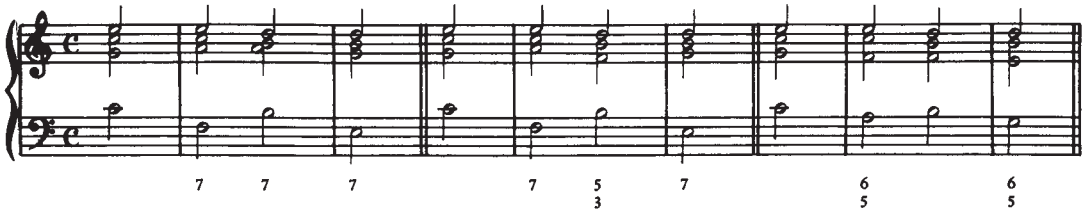
(c) major only



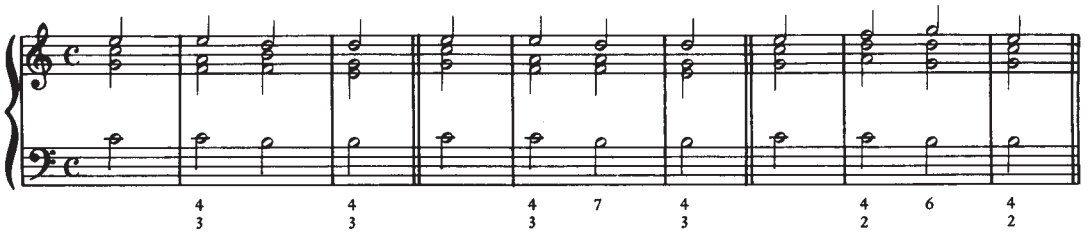
Unit 25: Remaining Uses of Seventh Chords

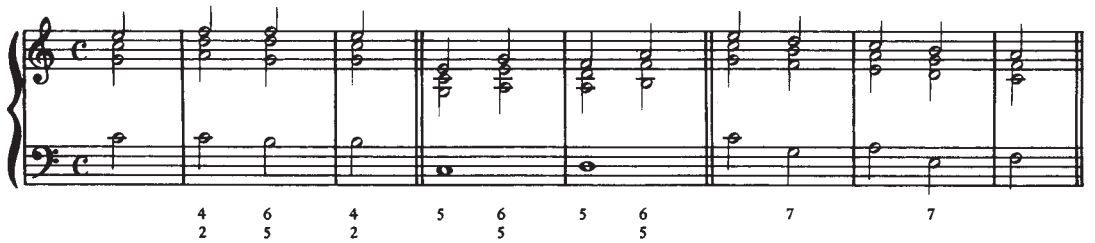
The patterns in (a) through (i) should continue to a cadence.

(a) (b) (c)



(d) (e) (f)



(g) (h) major only (i)

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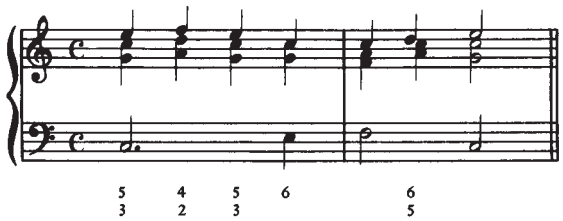
(j)



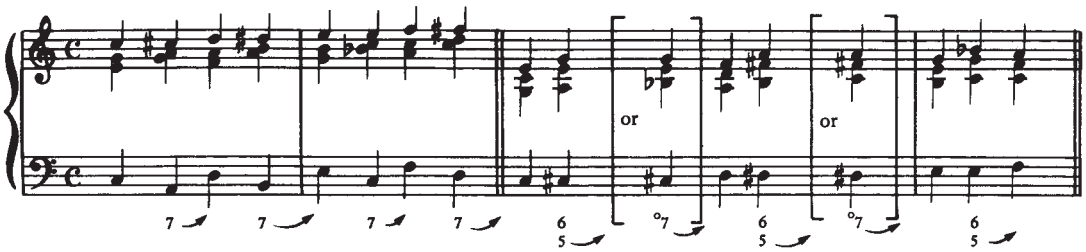
Unit 26: Applied V and VII

Play short progressions that begin as shown below. Lead each one to a cadence. Use different types of applied chords and sometimes lead the applied chords to triads in $\frac{6}{3}$ position.

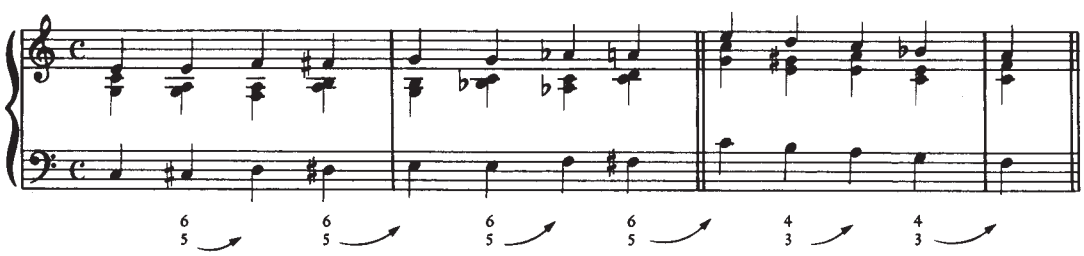
I–applied chord–ii (major only)
I–applied chord–iii
I–applied chord–IV
I–applied chord–V
I–applied chord–vi
i–applied chord–VII (minor only)

(a) major only

(b) major only



(c) major only; °7 also possible

(d) minor also possible

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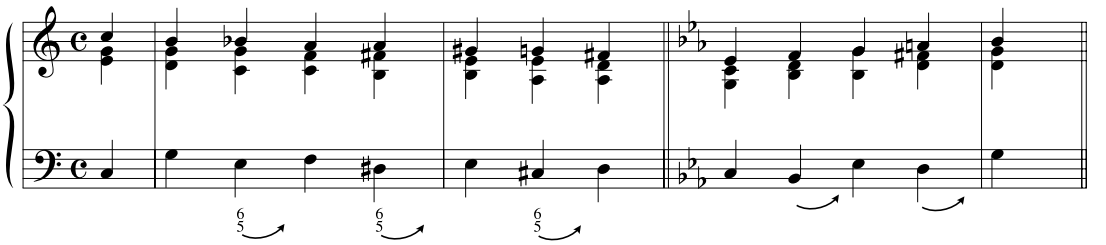
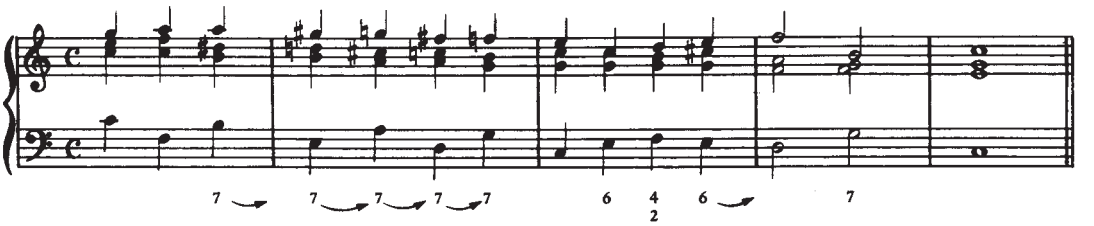
(e) minor and °7 also possible (f)



(g) major only

Unit 27: Diatonic Modulation

1. The following exercise in establishing keys can help you to acquire considerable fluency in modulation: Take a major or minor triad and lead it convincingly to an authentic cadence in every key to which it belongs. For example, besides being I in F major, an F-major chord is:

   III in D minor

   IV in C major

   V in B♭ major (also minor)

   VI in A minor

   VII in G minor

   And an F-minor chord is

   ii in E♭ major

   iii in D♭ major

   iv in C minor

   v in B♭ minor

   vi in A♭ major

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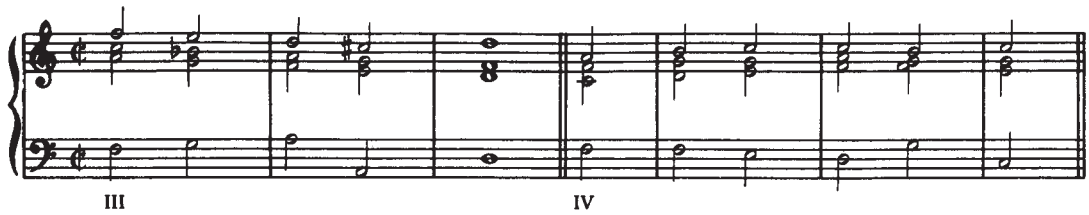
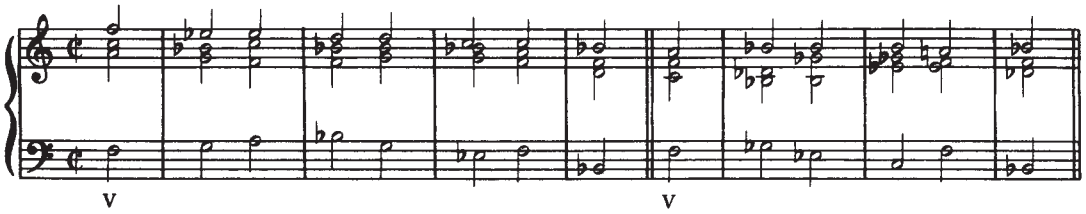
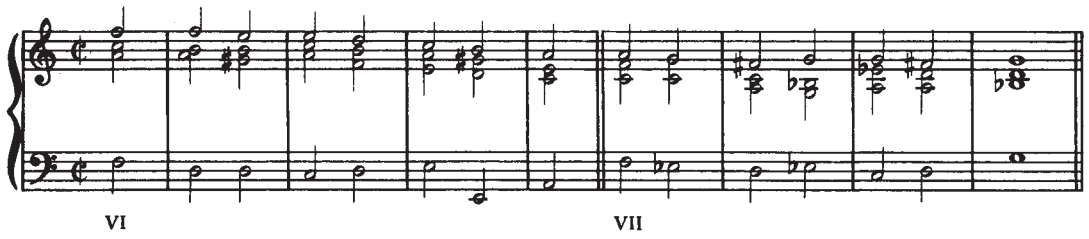
Examples (a)–(k) illustrate progressions in all the keys listed previously; the possibilities shown are by no means the only ones, but they are good ones. You should reproduce these, starting on other chords, before inventing other possibilities. Note that the progressions that begin on V do not move immediately to I—a procedure that would be most unconvincing. Instead, they expand V and add a 7th to it to lead forcefully to I. If the V (in minor) is a *minor* triad, its 3rd must eventually be raised to form a leading tone. In most of the progressions, the V is intensified (and its dominant function made clear) by a form of ii or IV immediately preceding it.

(a) *(b)*



(c) *(d)*

(e) *(f)*

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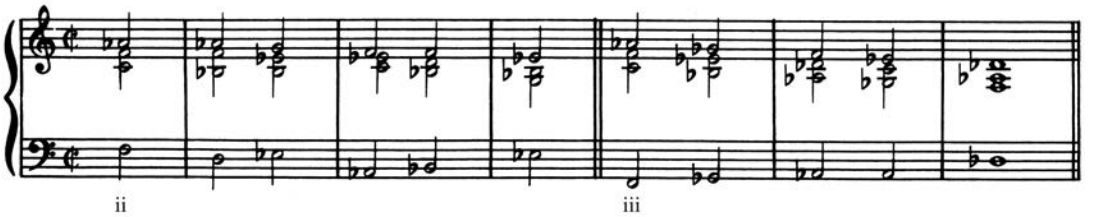
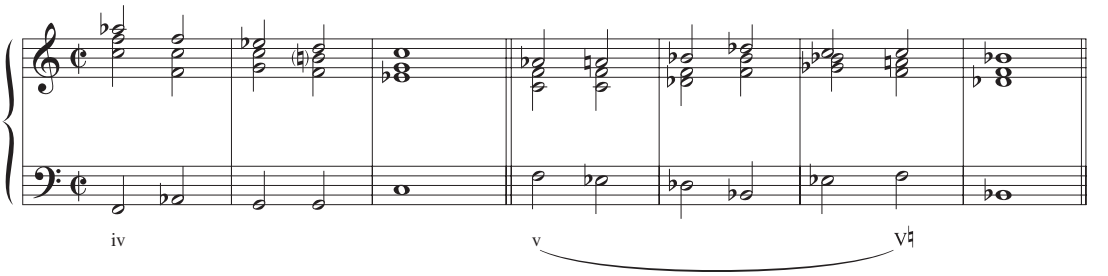
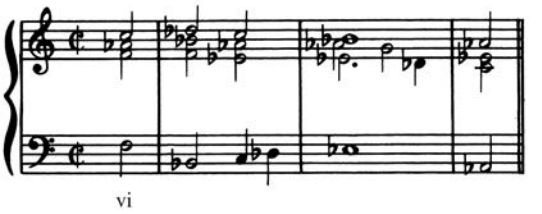
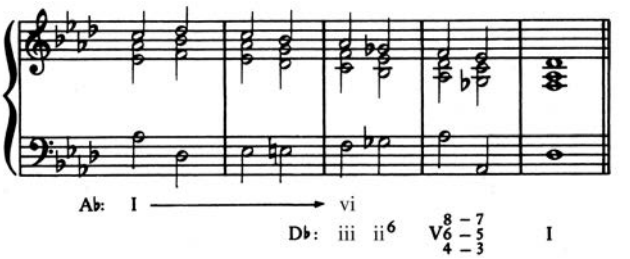
(g)

(h)

(i)



(j)

(k)

2. Once you can play these progressions easily and well, incorporate them into modulations. Establish the first key, move to the pivot, and lead to a cadence in the new key. Example (l) illustrates.

(l)

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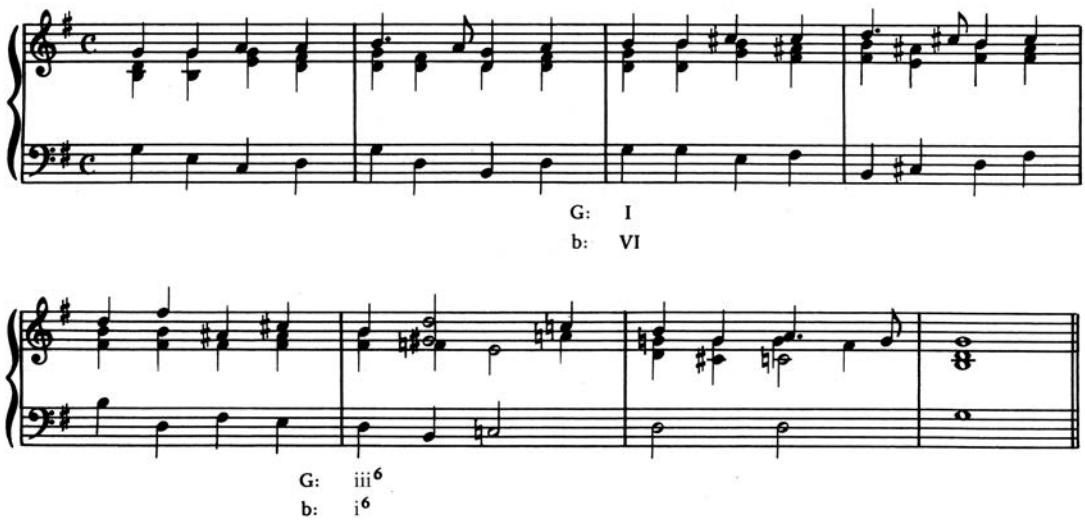
3. Invent more elaborate modulations. Use sequences with applied chords to lead to the pivot chord.
4. Use "skeletal" progressions like the one shown in Example (l) as points of departure for improvising short phrase groups that include a modulation and a return to the home tonic. These phrase groups should follow the procedures outlined in Unit 15, Section 13, except that they are no longer restricted to tonicizations of V in major. Example (m) illustrates such a phrase group.

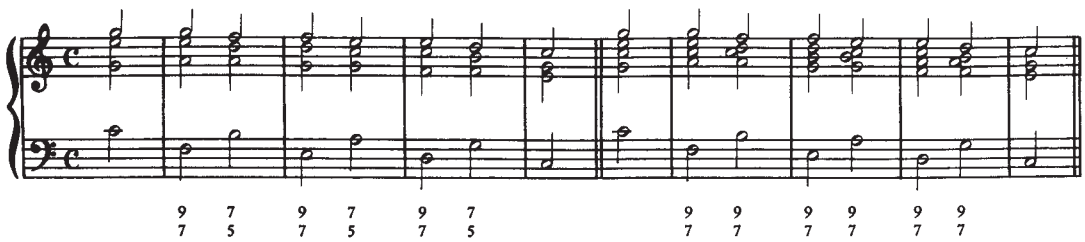
(m)



Unit 28: Seventh Chords with Added Dissonance

1. Prepare phrases, each in a different major or minor key, that incorporate the progressions of Example 28-4.
2. "Ninths"

(a) *(b)*



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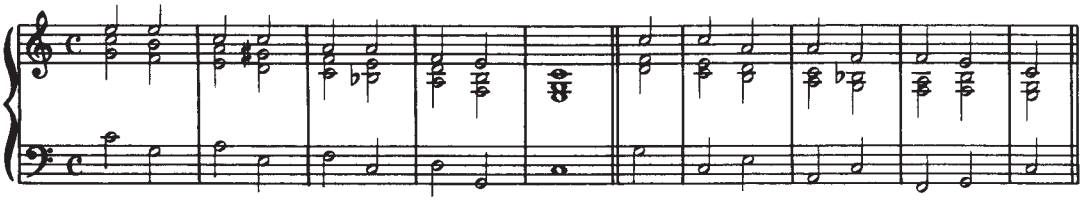
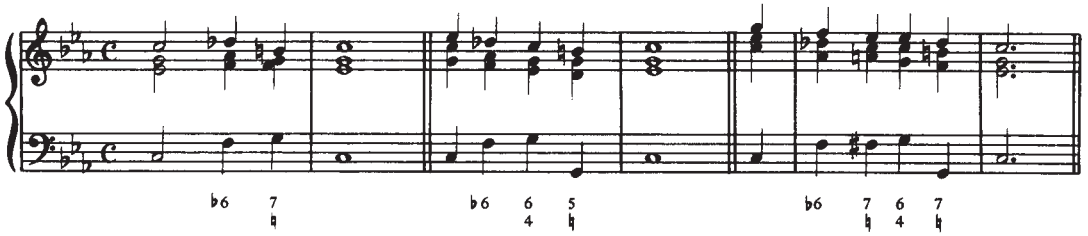
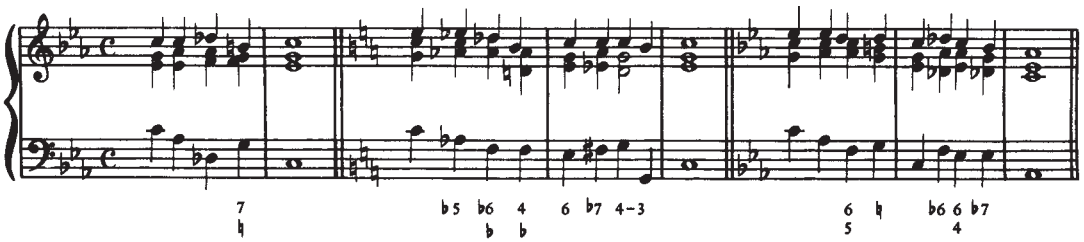
3. "Elevenths" and "thirteenths"

(c) major only (d)

Unit 29: The Phrygian II (Neapolitan)

(a) (b) (c)



(d) (e) (f)

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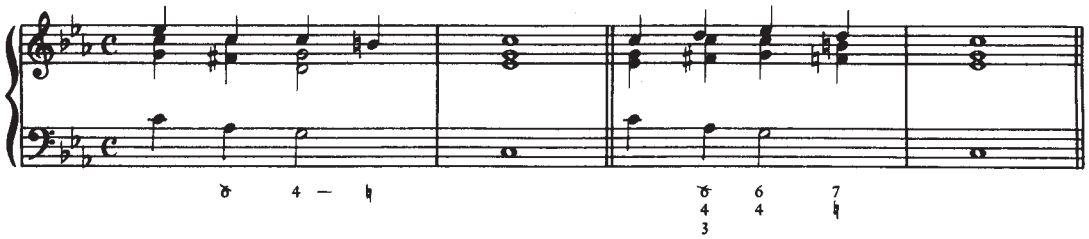
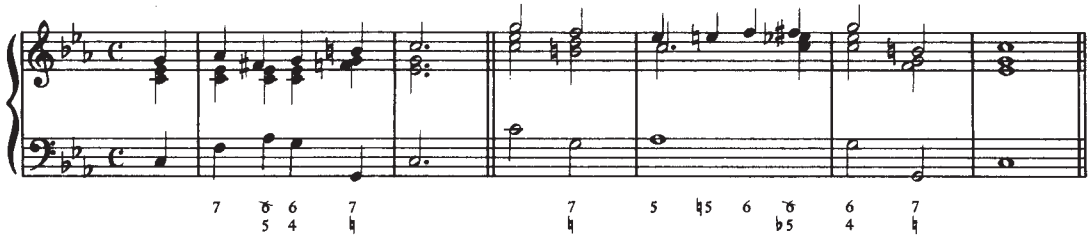
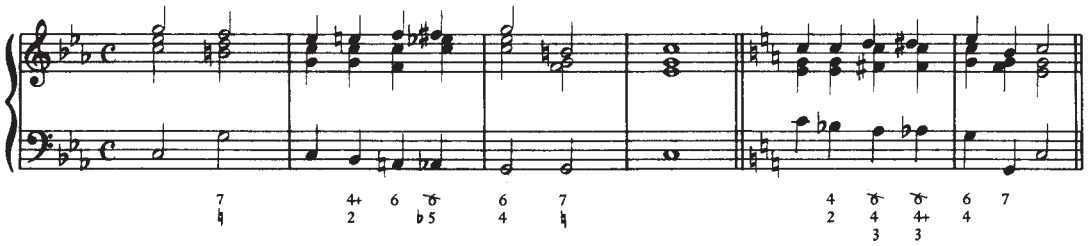
Unit 30: Augmented Sixth Chords

All these progressions except for (f) are given in minor, but (a), (c), (d), and (e) should be done in major as well.

(a) (b)

(c) (d)



(e) (f)

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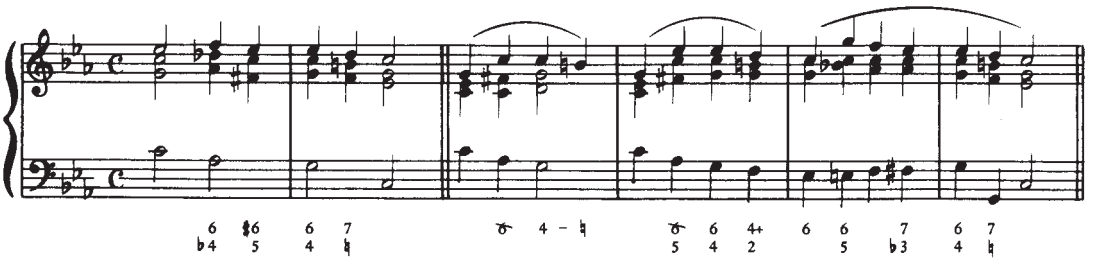
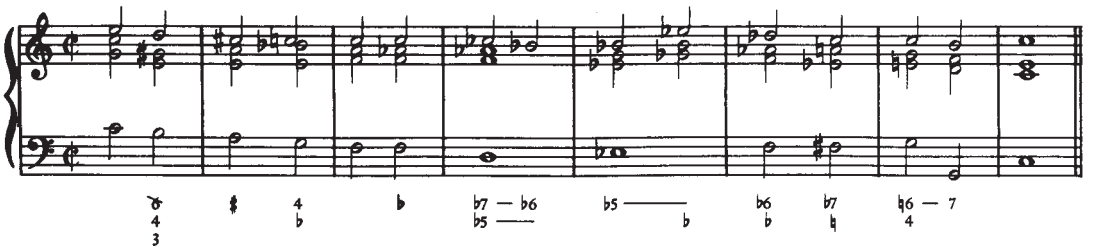
(g) (h)

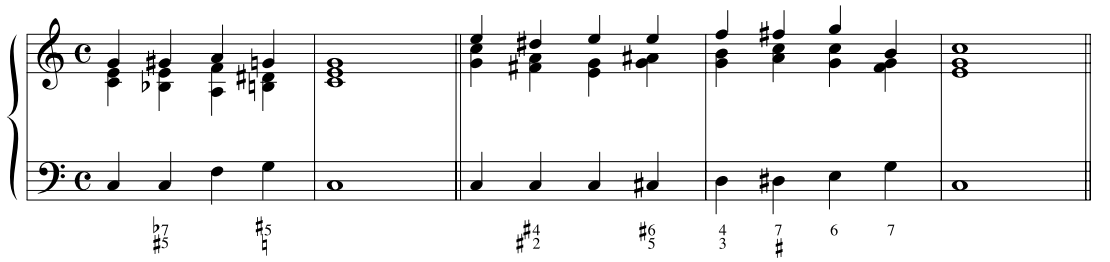


Unit 31: Other Chromatic Chords

(a)



(b) (c)



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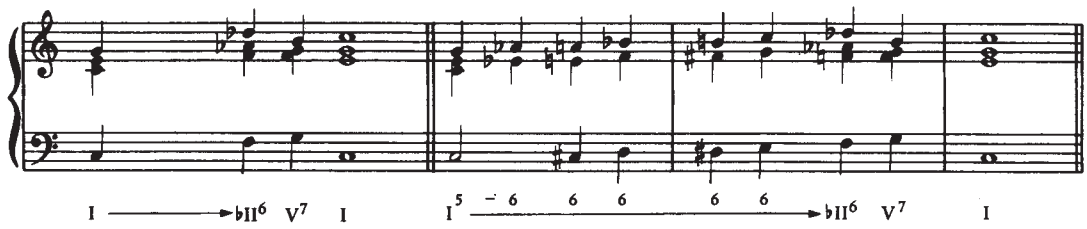
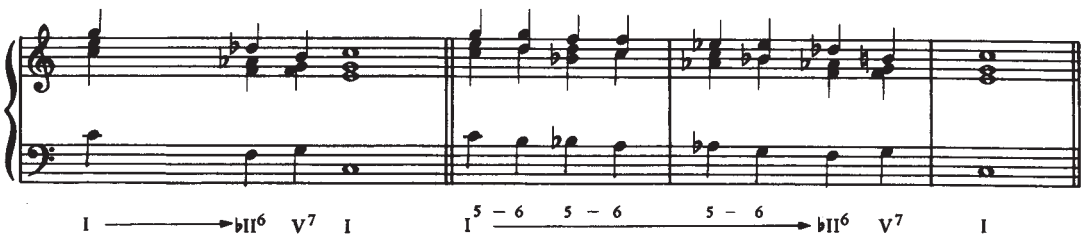
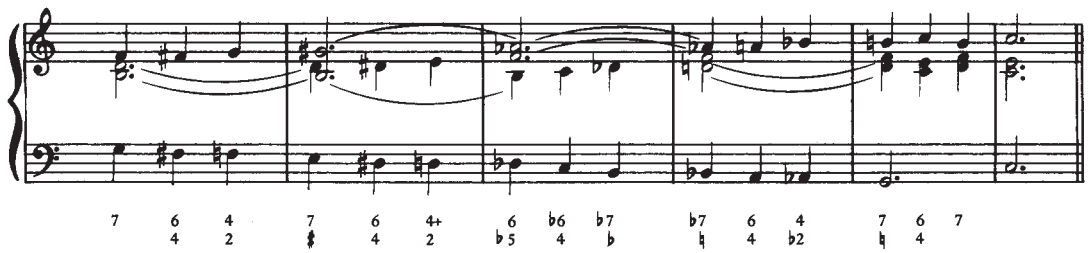
Unit 32: Chromatic Voice-Leading Techniques

In (a) and (b), the space between I and ♭II^6 must be filled in by parallel chromatic chords. The sample for (a) shows ascending parallel $\frac{6}{3}$ chords; other possibilities are ascending chromatic 5-6 series and parallel augmented triads. Other possibilities for (b) include descending parallel $\frac{6}{3}$'s, chromatic 7-6 series, and consecutive °7 chords.

(a) sample: parallel $\frac{6}{3}$ chords

(b) sample: descending 5-6

(c)



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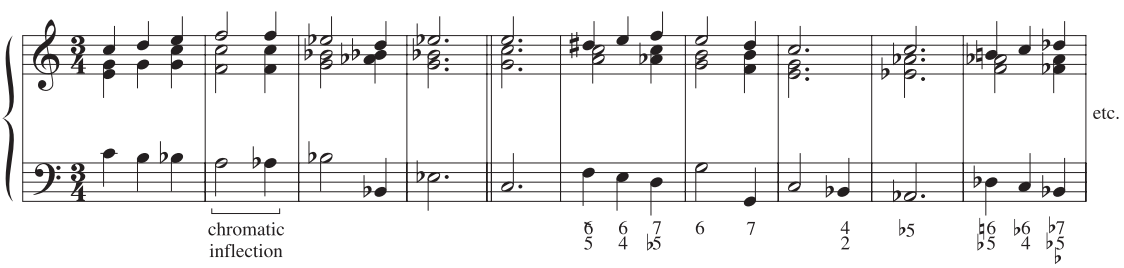
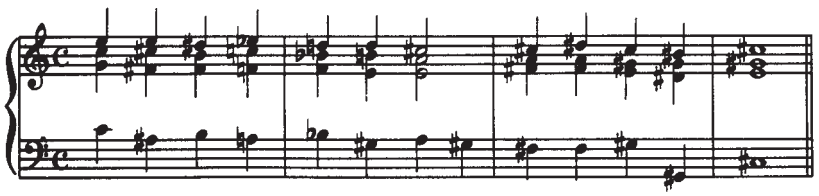
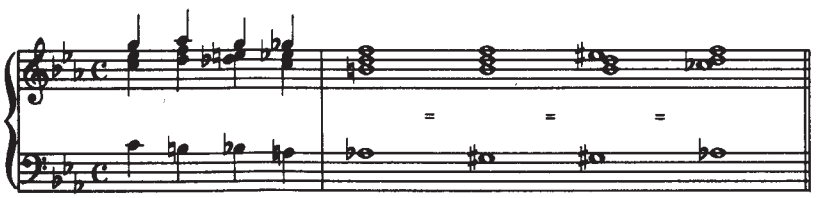
Unit 33: Chromaticism in Larger Contexts

The following progressions illustrate advanced modulatory techniques: modulation by chromatic inflection (a), by common tone (b), by chromatic sequence (c), and by the enharmonic reinterpretation of a diminished seventh chord (d). All of them are merely models, which you should vary and elaborate as well as, in (b) and (d), complete. In (a), the chromatic inflection transforms IV^6 of C into ii^6 of E♭. Lead the F-minor $\frac{6}{3}$ to other keys; invent other progressions with chromatic inflection. The common-tone modulation (b) should continue sequentially until you arrive again at C major. The chromatic sequence (c) leads to an A-major triad that functions as VI of c♯. Lead the A chord convincingly to four other keys. You should complete (d) in at least six different ways, each time to a different key and with attention to the many possible functions of °7. You should also use Example 33-10 as a model for enharmonic modulations based on the V^7/German 6th relationship.

(a) *(b)*



(c)

(d)

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Appendix

11 Score Reduction

For many students, recognizing patterns of harmony and voice leading is easiest when the music is in simple, note-against-note textures, like those of harmony exercises. Identifying the same patterns becomes much more difficult in the freer and more complex textures of real music. The great composers, however, were more concerned with writing beautiful music than with making life easier for future generations of students. So if we wish to understand the ways in which harmony and voice leading operate in actual compositions, we have to learn how to hear our way past the complex surface and into the underlying structure of the harmony, melody, and voice leading. One way of doing this is by making simplifications—or reductions—of some of the more challenging excerpts found in the book. The book contains a number of these reductions, usually presented right after the score of the excerpt. In this appendix, we present a few more, this time with commentary designed to help you in making similar reductions.

Example 9-1. *The first principle to follow in making a reduction is to produce a setting that is reasonably close to note-against-note.* Our simplification of the Schubert excerpt is almost completely note-against-note. We have achieved this simple texture by taking out almost all the dissonant tones that do not belong to the chords that occur at the same time. In bar 7, we have included the d♭^{2} eighth note because the stepwise approach to the final note sounds more coherent and because the d♭^{2} can be understood as part of the V^6_5 chord. It would have been possible to leave it out; there is never a single uniquely correct way to reduce a passage.

A second procedure is to leave out filling voices that add nothing essential to the texture. We did not do this in our first reduction, but we provide a second reduction with doublings omitted. The sustained e♭^{1} of the right-hand part doubles the e♭ of the left hand. Starting in bar 5, the right-hand part doubles the melody at the lower octave. Leaving out the doublings produces a four-part texture for the first four bars, and after that a three-part texture until almost the end of the phrase.

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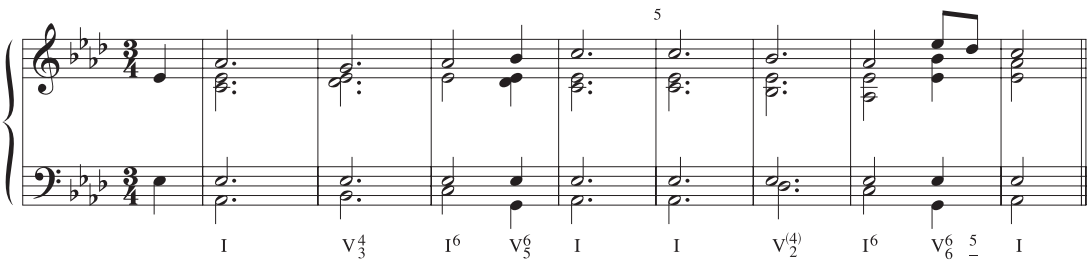
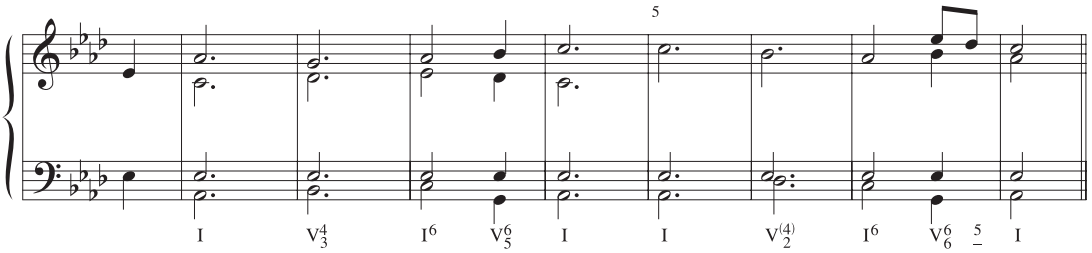
Example 9-1 reduced



or



Example 10-1. This passage requires a much more drastic reduction than the other Schubert piece because of the great number of notes in the right-hand part and the wide sweep of the melody. *In reducing instrumental melodies that range over several octaves, it is often necessary to transfer some of the tones up or down an octave to get a coherent melodic line.* In the first reduction, we leave all of the melody notes in the registers in which they occur. As a result, the line sounds hopelessly fragmentary; this reduction, therefore, has value only as a preliminary step. In our second reduction, we place all the tones into the same octave to produce a more continuous, and much more satisfactory, melodic line. In bar 2, we include the d^1 at the end of the bar to make the $e\flat^1$ of the next bar sound connected to the melodic line. In bar 4, we substitute an $f\natural^1$ for the $f\sharp^1$ that actually appears at the downbeat because the $f\natural^1$ belongs to the chord while the $f\sharp^1$ counts as a chromatic passing tone (the $f\natural^1$ had occurred at the end of the preceding bar). The $b\flat^1$ of bar 7 divides the space between the f^2 of bar 6 and the $e\flat^1$ of 8. The real melodic connection is, of course, between f and e♭. This is shown in the second reduction; f^2 is retained in bar 7 since it, not b♭, is part of the main melodic line.

Any reduction will be less beautiful, interesting, and special than the original passage, but a good one will reveal the aspects of the music that might not be immediately obvious from looking at the score. For this to happen, your reduction should sound coherent and logical. And it should sound close enough to the original passage to serve as a good "map" of that passage. Although the surface rhythms of a reduction may be very different from the original, the underlying pace of the chord progressions should remain close to that of the actual music.

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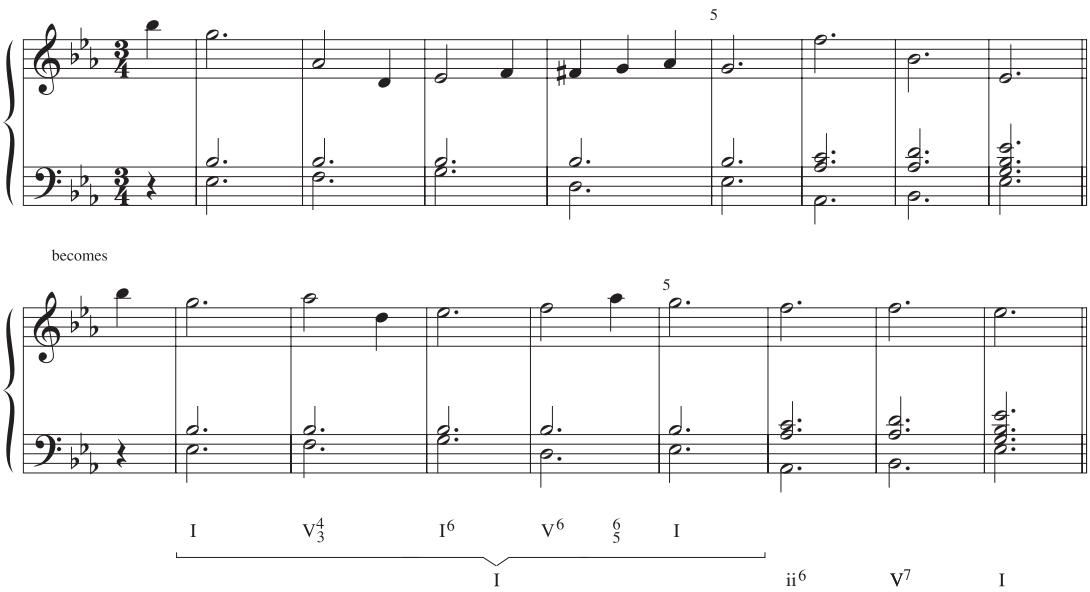
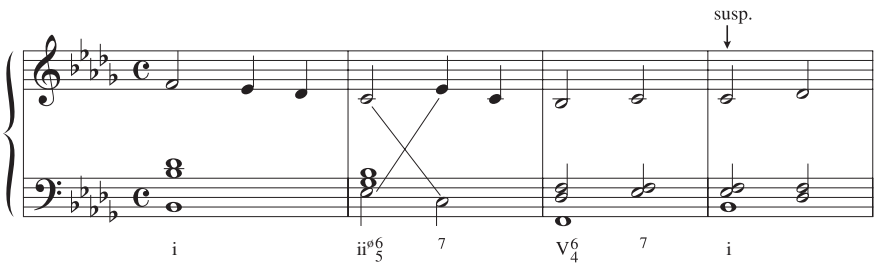
Example 10-1 reduced

***Example* 13-11.** Mendelssohn wrote this etude using a special kind of piano writing sometimes called "three-hand music"; the three components of the texture sound as though each might be played by a different hand. The left hand plays the bass while the right hand plays the arpeggios that fill in the chords; these arpeggios really represent inner-voice tones. The melody is, of course, not really played by a third hand; it is divided between the left and right hands in the middle of the texture. In a reduction of this excerpt we thought it best to show the melodic line on top, as we have done in our sample solution, because this line represents the top voice of the phrase.

Example 13-11 reduced



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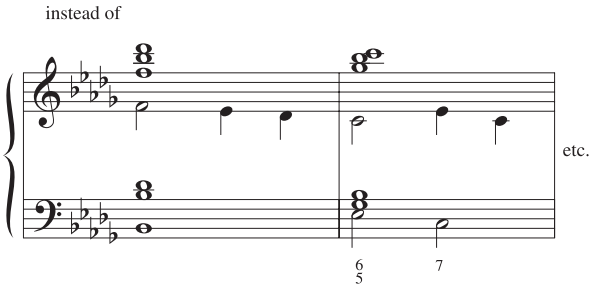
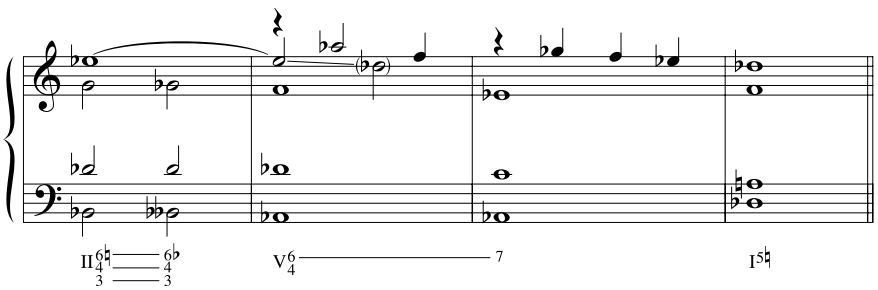


Example 31-14. The texture of this example is especially dense and complex, but the harmonic framework is actually quite simple. The e♭² of bar 1 continues into bar 2, where it forms a dissonant suspension against the cadential $\frac{6}{4}$ chord. This suspension, like those discussed in Unit 22, Section 22, does not resolve. The d♭², which would form the tone of resolution, is already present in the harmony, which diminishes the need for a literal resolution. (In our reduction, the note in parentheses represents this implied tone of resolution.) The main melody of the last two bars is the vocal line, which projects very strongly in performance because it is doubled an octave lower by two trumpets. The beautiful rising line in the orchestra (violins doubled by some of the winds) is a very important counter-melody, as it brings into prominence the A♮ of the augmented triad that replaces the expected D♭ tonic. To include it in this reduction, however, would require an additional stave, and would not actually add anything to the picture of the harmony, so we have left it out.

Example 31-14 reduced



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Appendix

III

Roman Numerals and Registers

This Appendix explains the uppercase system of Roman numeral analysis, and why we advocate the "Helmholtz" system for register designation. Also included is a summary of the various sequences described in this book.

Systems of Roman-Numeral Analysis and Register Designation

Roman-Numeral Analysis. In this book, we use upper- and lowercase Roman numerals for chord labeling and harmonic analysis. Another system, however, uses only uppercase Roman numerals, which can be beneficial for later and more advanced work in theory and harmonic analysis.

This system reflects the theoretical ideas of Heinrich Schenker, who used Roman numerals to indicate a *Stufe*—the German word for "scale step" (scale degree)—a term that applies to some local, individual chords and to structural harmonies governing broader spans of music. As the symbol for a *Stufe,* the Roman numeral "I" in C major can signify a major chord, a minor chord, a seventh chord, or indeed many combinations of notes controlled by the root C. The same Roman numeral can also represent the governing harmonic function of an extended passage embracing several or many chords. In this system, therefore, one basic sign applies to all manifestations of a structural harmony, with figured-bass numerals and other symbols indicating inversions and deviations from the basic type.

For example, the Roman numerals II, II^7, and II$^6_5$ signify chords of different quality that share the same harmonic function. In the major mode, they represent a minor triad and two positions of a minor seventh, respectively; in the minor mode, a diminished triad and two positions of a half-diminished seventh chord, respectively. Hence, for us a Roman numeral can indicate the scale degree on which a chord is built (and thus its spelling), but its more essential purpose is to signify harmonic function. As analysis and writing skills develop, Roman numerals can be used less to indicate local detail and more broadly, and analytically, to denote harmonic function in either the major or the minor mode. *This method assumes fluent knowledge of chord quality in both modes, a skill we consider as fundamental as the recognition of key signatures.*

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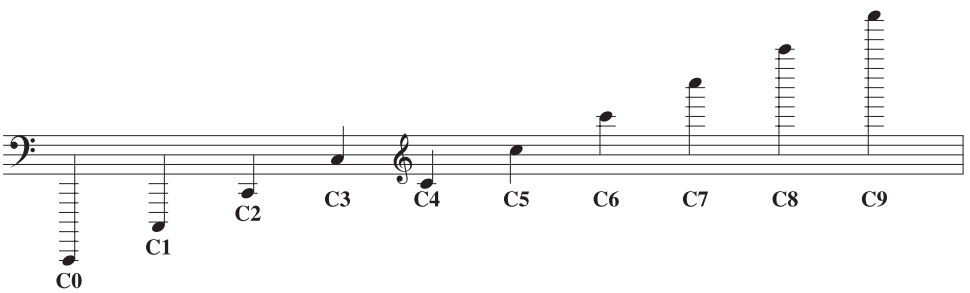
Systems of Register Designation

In Unit 1, Section 4, we presented the system of register designation made popular by Hermann Helmholtz (1821–1894), a great German physician and physicist who made important contributions to various areas of science. The system, however, originated much earlier. Bach, for example, used a very similar method in his *Notebook* for Wilhelm Friedemann Bach to explain the different clefs to his son. Helmholz's system is used widely in many current harmony texts, and Schenker adopted it throughout his writings during the first part of the 20th century.

A different system, used particularly in scholarly writing on music theory, is associated with the Acoustical Society of America and is sometimes referred to as the system of "scientific pitch notation." As the example that follows indicates, the octaves are numbered consecutively, with capital letters and Arabic numerals, from the lowest C on the piano, designated C1 (the A below, the first note at the bottom of the modem piano, is sometimes labeled AO). The numbering of consecutive C's, therefore, increases by one digit: C2, C3, C4, etc. (Notice that middle C is always C4.) The remaining pitches of the scale carry the Arabic numeral of the first (lowest) C of any particular octave; the B above C4 is thus B4, but the next note would be C5, and so forth.



The traditional (Bach-Helmholtz) system has the advantage of conforming more closely to the way music is heard and felt. The pitch designations radiate above and below c^1 (middle C), which is heard as being in the "middle" of the constellation of pitches; furthermore, it is part of the range of both high voices (women and children) and low voices (men). The further the pitches appear above or below this central area, the more they are heard as moving into the extremes of register. We believe this traditional system, with numbers increasing or decreasing with the distance above or below middle C, better expresses the centrality of the middle register and the contrast between moderately and extremely high and low regions of pitch.

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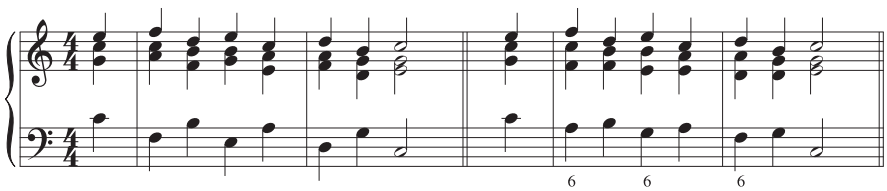
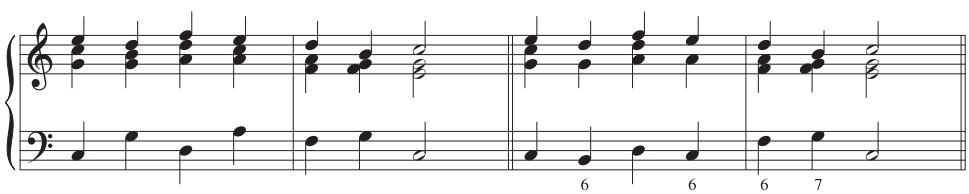
Summary of Sequences

The following summary should help you organize and remember the relatively large number of sequences described throughout this book. We have not included motions involving parallel $\frac{6}{3}$ chords or less frequent sequential patterns. Instead we focus on the four basic types of triadic sequences presented in Unit 18: descending 5th, ascending 5th, descending 5-6 (falling 3rd), and ascending 5-6; we continue with the four types with diatonic seventh chords and progress finally to sequences involving varying degrees of chromaticism.

Although, in one sense, sequences with seventh chords and chromaticism represent "versions" of the diatonic patterns, recall that we use the terms *model* and *variant* to refer to the *bass patterns* that underlie both diatonic and chromatic sequences. The progressions are labeled either model or variant. Remember also that *the name of the sequence names the model,* a mnemonic device that will help you to recall the particular succession of chords in the models. For example, a bass descending in 5ths always represents a model; every chord appears in root position. For 5-6 sequences, ascending and descending, the model bass is always scalar, and the name of the sequence indicates that root-position chords alternate with inversions such as $\frac{6}{3}$, $\frac{6}{5}$, or $\frac{4}{3}$.

The variant is derived from a procedure *opposite* to that of the model. Because the models of descending and ascending 5th sequences comprise all root-position chords, any variant necessarily involves inversions (the root movement, however, remains falling 5ths). A similar line of reasoning applies to the 5-6 sequences (the variants exhibit root position chords). This method should help you relate numerous sequential patterns to four basic types.

Sequences with Triads

descending 5th (model) *descending 5th (variant)*

ascending 5th (model) *ascending 5th (variant)*

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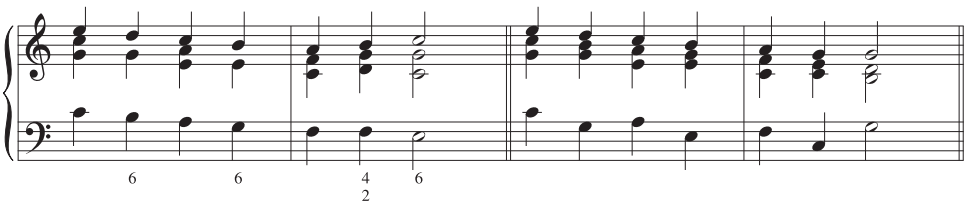
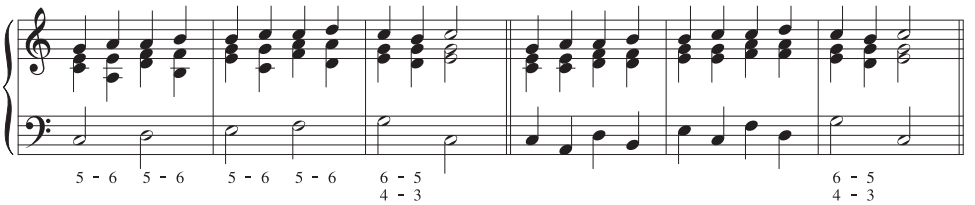
descending 5-6 (model)

descending 5-6 (variant)



ascending 5-6 (model)

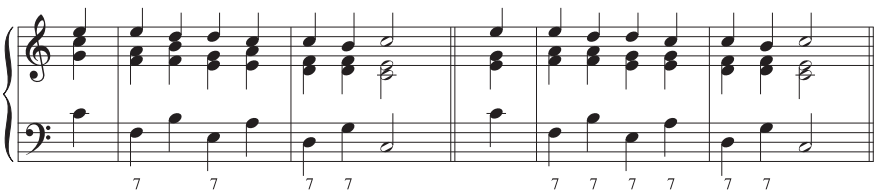
ascending 5-6 (variant)



Sequences with Seventh Chords

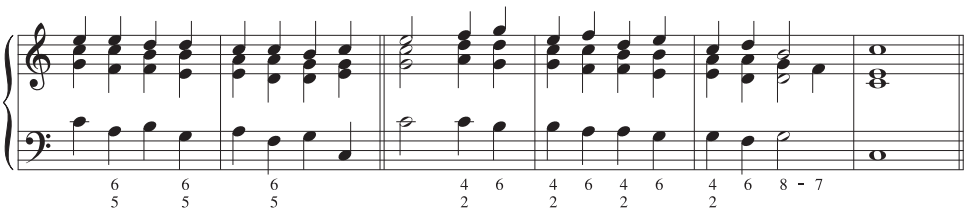
descending 5th (model with 7ths and triads)

descending 5th (model with interlocking 7ths)



descending 5th (variant with $\frac{6}{5}$'s)

descending 5th (variant with $\frac{4}{2}$'s and $\frac{6}{3}$'s)



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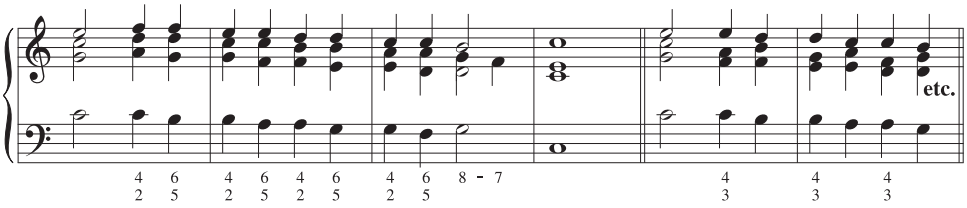
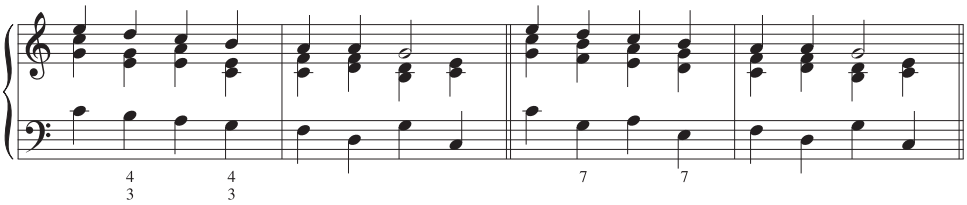
descending 5th (variant with 4/2's and 6/5's)

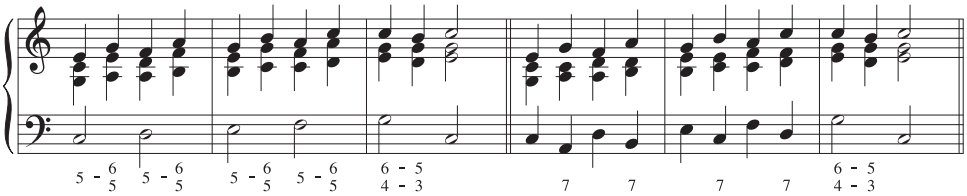
descending 5th (variant with 4/3's and 5/3's)



descending 5-6 (model with 4/3's)

descending 5-6 (variant with 7's)

ascending 5-6 (model with 6/5's)

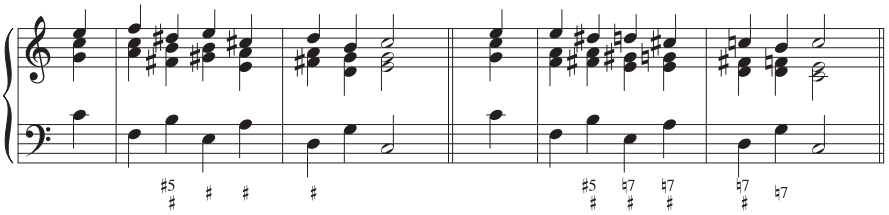
ascending 5-6 (variant with 7's)



Sequences with Applied Chords

descending 5th (model with triads)

descending 5th (model with interlocking sevenths)



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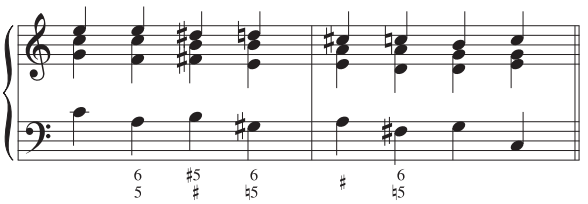
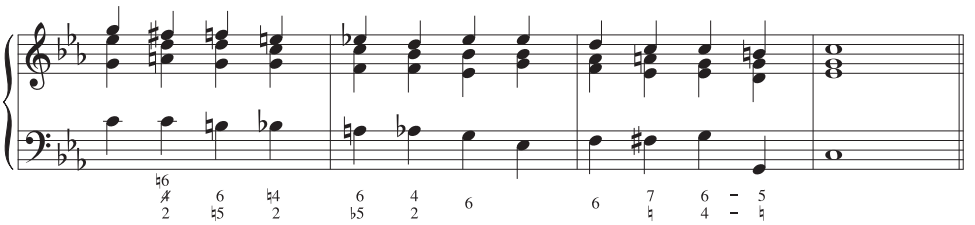
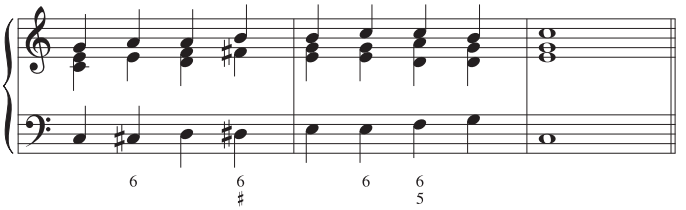
descending 5th (variant with applied 6/5's)



descending 5th (variant with 4/2's and 6/5's)

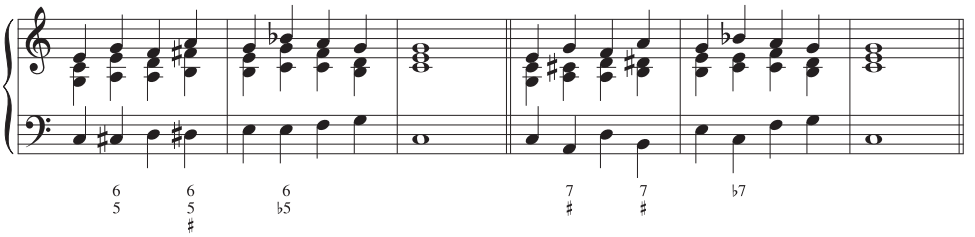


ascending 5-6 (model with 6/3's)



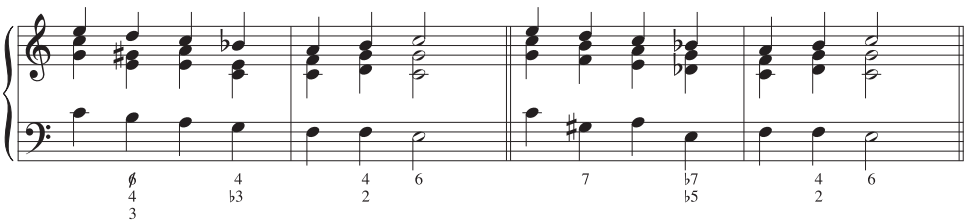
ascending 5-6 (model with 6/5's)

ascending 5-6 (variant with 7ths)



descending 5-6 (model with $\frac{4}{3}$'s)

descending 5-6 (variant with dim 7ths)



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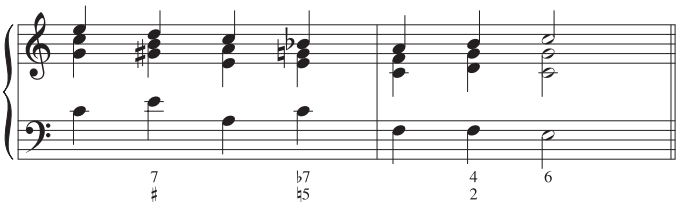
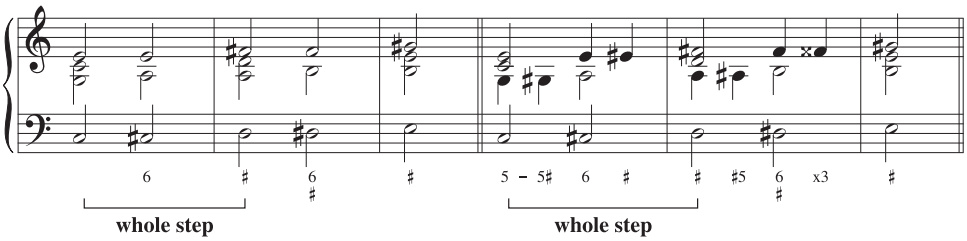
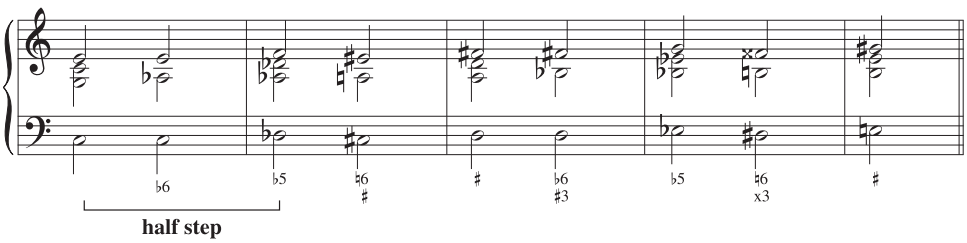
descending 5-6 (variant with applied dominant 7ths)

Sequences Involving Leading-Tone Chromaticism and Mixture

ascending 5-6 (model with applied $\frac{6}{3}$'s over chromatic bass; major every whole step)

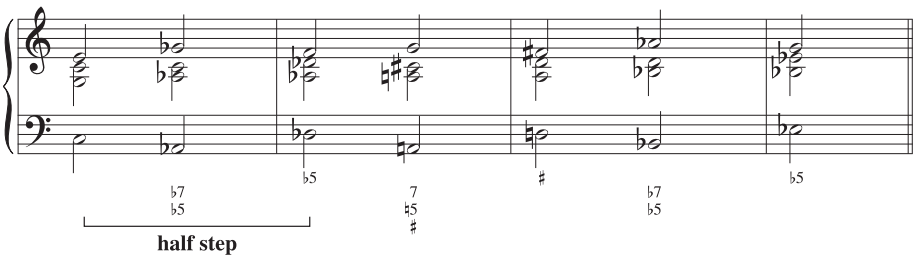


ascending 5-6 (model with applied $\frac{6}{3}$'s; momentary augmented triads) triads

ascending 5-6 (model with major triads every half step, preceded by "applied" augmented $\frac{6}{3}$'s; notice enharmonic reinterpretation in bass)



ascending 5-6 (variant with major triads on every half step, preceded by applied 7's)



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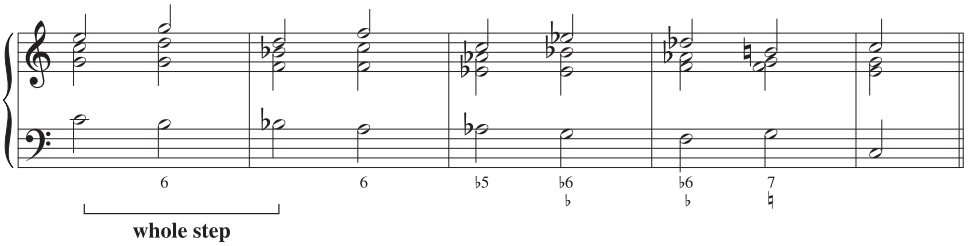
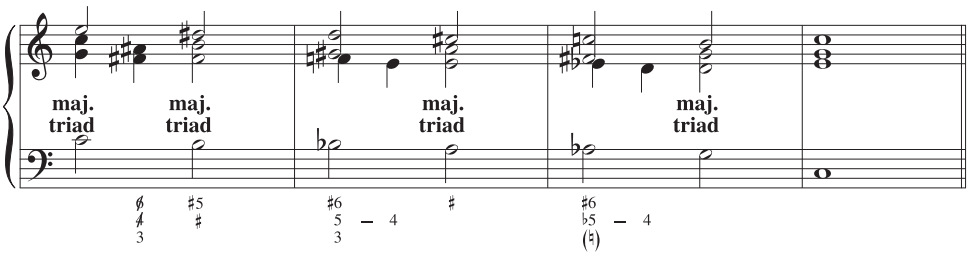
descending 5-6 (model with major triads every whole step, followed by back-relating applied $\frac{6}{3}$'s)



descending stepwise chromatic bass with augmented sixths



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Index of Musical Examples

Bach, C. P. E., Rondo, W56/5, 626–627
Bach, Johann Sebastian
  Brandenburg Concerto No. 1, Polacca, 408
  Cantata No. 140, 216
  Cantata No. 18: recitative, 447
  Chorales
    "Ach Gott, Wie Manches Herzeleid," 374
    Jesu, Meine Freude, 347
    No. 8, 405
    No. 11, 336
    No. 19, 397
    No. 22, 277
    No. 23, 471
    No. 26, 65, 171
    No. 32, 229
    No. 40, 141
    No. 47, 141
    No. 51, 141
    No. 62, 295
    No. 67, 153
    No. 69, 142
    No. 72, 141
    No. 80, 141
    No. 83, 277
    No. 96, 368
    No. 99, 210
    No. 100, 224
    No. 101, 285
    No. 102, 290, 293
    No. 104, 294
    No. 108, 216, 466
    No. 113, 406
    No. 117, 222, 224
    No. 135, 387
    No. 137, 487
    No. 142, 452
    No. 146, 465
    No. 149, 404, 497
    No. 172, 389
    No. 178, 132
    No. 184, 93–95
    No. 201, 489
    No. 207, 487
    No. 209, 486
    No. 212, 171
    No. 220, 353
    No. 222, 486
    No. 234, 248
    No. 237, 235, 465
    No. 250, 100
    No. 256, 202
    No. 265, 284
    No. 272, 403
    No. 279, 460
    No. 280, 288
    No. 281, 142, 200
    No. 293, 97, 99, 102
    No. 298, 249
    No. 336, 465
    No. 365, 272
  English Suites
    No. 2: Sarabande, 386
    No. 3: Courante, 403
    No. 3: Prelude, 443, 476
  Figured-Bass Chorale No. 29, 266
  French Suite No. 5: Gavotte, 498
  Gamba Sonatas
    BWV 1027, II, 470
  BWV 1029, I, 444
  Geistliche Lieder, No. 47, 348
  Little Fugue for Organ, No. 6, BWV 558, 407
  Little Preludes
    BWV 924, 136, 307, 489
    BWV 939, 468
  Mass in B minor, BWV 232: Crucifixus, 600
  Organ Fugue, BWV 578, 493
  Orgelbuchlein, "Ich Ruf zu Dir," 369
  Partitas
    No. 4, BWV 828, 219
    No. 6, BWV 830, *Air*, 378
    No. 6, BWV 830, Toccata, 609
  Passacaglia and Fugue in C minor, 531
  Suite No. 1 for Cello, Prelude, 371
  Suite No. 3 for Orchestra, Air, 336
  Well-Tempered Clavier I
    Fugue 21, 400, 401
    Fugue 22, 401
    Prelude 1, 220, 223
    Prelude 2, 419
    Prelude 21, 297–298
  Well-Tempered Clavier II
    Fugue 9, 187
    Fugue 10, 376
    Prelude 14, 532
    Prelude 17, 534
Beethoven, Ludwig van
  Bagatelles
    Op. 33/2, 167
    Op. 119/11, 351
    Op. 126/3, 404
    Op. 126/6, 42
  Cello Sonatas, Op. 69, II, 39
  Diabelli Variations, Op. 120, Var. 28, 589
  Missa Solemnis, Op. 123, I, 454
  Piano Concertos
    Op. 58, I, 473
    Op. 58, III, 174
    Op. 73, "Emperor," II, 236
  Piano Sonatas
    Op. 2/1, I, 150, 168
    Op. 2/1, III, 157
    Op. 2/3, I, 354, 474
    Op. 2/3, III, Trio, 345
    Op. 10/1, I, 412–413, 510
    Op. 13, "Pathétique," I, 637
    Op. 13, "Pathétique," III, 551
    Op. 14/1, II, 42
    Op. 14/2, I, 446
    Op. 14/2, II, 457–458
    Op. 31/1, I, 507
    Op. 53, "Waldstein," I, 105, 643
    Op. 53, "Waldstein," II, 236
    Op. 53, "Waldstein," III, 307
    Op. 57, "Appassionata," I, 537, 645, 649
    Op. 78, II, 550
    Op. 101, III, 607
    Op. 106, "Hammerklavier," I, 632
    Op. 110, I, 55
    Op. 111, II, 103
  String Quartets
    Op. 18/2, II, 340, 554
    Op. 18/2, IV, 640
    Op. 18/3, I, 181
    Op. 59/1, I, 370
    Op. 95, III, 416
    Op. 131, IV, 152
  String Trios, Op. 9/3, III, 479
  Symphony No 1, Op. 21, I, 468
  Thirty-Two Variations, Theme, 611
  Variations, Op. 34, 344
  Violin Concerto, Op. 61, I, 593
  Violin Sonatas
    Op. 24, "Spring," I, 196

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Op. 24, "Spring," II, 510
Op. 24, "Spring," III, 436
Op. 30/1, II, 495

Bellini, Vincenzo, *Norma*: "Casta Diva," 496–497

Bizet, Georges, *Carmen*: final bars, 585

Brahms, Johannes
Capriccio, Op. 76/1, 588
Ein Deutsches Requiem, Op. 45, VII, 353
"Geliebter wo Zaudert," Op. 33/13, 289
Intermezzos
Op. 76/7, 103, 274
Op. 117/1, 9, 492
Op. 117/3, 316
Op. 119/3, 268
Piano Concerto, Op. 15, I, 335
Piano Trio, Op. 87, IV, 592
String Quartet, Op. 51/1, III, 292
Symphonies
No. 3, Op. 90, I, 437
No. 3, Op. 90, II, 137, 431
Variations on a Theme by Haydn, Op. 56a, 230, 566, 569, 570–571
Variations on a Theme by Paganini,
Op. 35
Finale, 379
Theme, 552
Violin Concerto, Op. 77, I, 40
Waltz, Op. 39/8, 644

Bruckner, Anton, Symphony No. 8, III, 520–521

Chopin, Frédéric
Ballades
Op. 23, 475
Op. 38, 476, 518
Op. 47, 569
Op. 52, 494
Barcarolle, Op. 60, 511
Etudes
Nouvelle Etude No. 2, 603–604
Op. 10/3, 463, 556
Op. 10/5, 435
Op. 10/7, 267
Op. 10/11, 218
Op. 25/2, 373
Op. 25/4, 539
Op. 25/6, 452
Op. 25/9, 308
Impromptus
Op. 29, 598–599
Op. 36, 198, 642
Mazurkas
Op. 17/3, 286, 434
Op. 24/4, 285
Op. 25/3, 454
Op. 33/4, 536
Op. 41/2, 287
Op. 63/2, 513
Nocturnes
Op. 27/1, 232
Op. 32/2, 428
Op. 62/2, 170, 335
Op. 72/1, 572
Piano Concerto, Op. 21, III, 628
Preludes
Op. 28/5, 429
Op. 28/9, 577–578, 616
Op. 28/13, 253–254
Op. 28/14, 358
Op. 28/17, 606
Op. 28/20, 532
Op. 28/22, 567, 571–572
Scherzos
Op. 31, 453
Op. 39, 198
Sonata, Op. 35, I, 589
Valse, Op. 34/1, 356

Clementi, Muzio, Piano Sonatina, Op. 36/2, I, 47

Corelli, Arcangelo
Concerto Grosso, Op. 6/8, Pastorale, 444–445
Sonata V, Op. 1, Allegro, 276
Trio Sonata, Op. 4/8, Allemanda, 319

Dufay, Guillaume, *Ave Maris Stella*, 325

Dvořák, Antonin, Symphony in G, Op. 88, IV, 512

Franck, César
Symphonic Variations, 589
Symphony in D minor, I, 372

Freylinghausen, Johann, "Morgenglanz der Ewigkeit," 259

Handel, George Frideric
"Alexander's Feast" Concerto, IV, 373
Chaconne in G, 463
Concerti Grossi
Op. 3/1, II, 275
Op. 3/1, III, 331–332
Op. 3/2, I, 200
Op. 6/6, Musette, 305
Op. 6/9, Gigue, 237
Op. 6/12, Allegro, 314
The Creation: No. 2, Aria, 646, 647
Flute Sonata, Op. 1/5, Bourrée, 448
Harpsichord Suites
No. 2, Adagio, 334, 395
No. 3, I, 449–450, 530
No. 5, Air, 231
No. 5, Double IV, 134
No. 7, *Passacaglia*, 13, 14, 15, 282
Leçon No. 1, Air, 202–203
Messiah
"And the Glory of the Lord," 232
Pastoral Symphony, 9
Oboe Concerto in G Minor, IV, 139
Sonata No. 5 for Flute and Thoroughbass, 238
Suite No. 3, *Air and Variations*, 270

Haydn, Franz Joseph
Piano Sonatas
Hob. XVI/35, I, 166
Hob. XVI/52, I, 405, 600–601
"She Never Told Her Love," 186
Sonatas in D, Hob. 16/37, 357
String Quartets
Op. 54/1, II, 648
Op. 54/1, IV, 466
Op. 64/5, "Lark," II, 554
Op. 74/1, I, 465
Op. 76/1, II, 555
Op. 76/3, "Emperor," I, 250
Op. 76/3, "Emperor," III, 170
Op. 76/5, II, 349
Op. 76/6, I, 561
Op. 77/2, Menuetto, 251
Symphonies
No. 97, III, 123
No. 98, II, 10
No. 98, IV, 241
No. 101, "Clock," IV, 233, 336
No. 104, III, 559

Josquin, DesPrez, Ave Maria, 309

Kuhnau, Johann, Biblical Sonata No. 5, 116

Liszt, Franz
Gnomenreigen, 602–603, 610–611
Piano Concerto No. 1, 629
Waldesrauschen, 535

Mahler, Gustav, *Das Lied von der Erde*, VI, 377

Mendelssohn, Felix
Etude, Op. 104/1, 217
Lobgesang, I, 484
A Midsummer Night's Dream: Overture, 426
Octet, Op. 20, II, 516–517
Piano Trio, Op. 49, I, 346
Piano Trio, Op. 49, IV, 585
Rondo Capriccioso, Op. 14, 591
Songs without Words
Op. 53/3, 325–326
Op. 62/1, 246–247
Op. 84/4, 612
Op. 85/4, 41
Op. 102/4, 529
String Quartets, Op. 13, I, 220

Mozart, Wolfgang Amadeus
Adagio in B Minor, K. 540, 464
Cosi fan tutte, K. 588, Overture, 202

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Mozart, Wolfgang Amadeus (*Continued*)
- *Don Giovanni*
  - Finale, 433
  - "Madamina," 432
  - "Mi Tradita," 348–349
  - "Non ti fi dar," 151
- *Eine Kleine Nachtmusik*, K. 525, II, 350
- Exercise for Barbara Ployer, 344
- Fantasies
  - K. 397, 525, 557
  - K. 475, 471
- German Dance, K. 509/6, 256
- *The Magic Flute*, K. 620
  - "Ach Ich Fühls," 552
  - Act I, 190
  - "Der Hölle Rache," 352
  - "In Diesen Heil'gen Hallen," 255
- *The Marriage of Figaro*, K. 492
  - "Crudel! Perche Finora," 556
  - Recitative Act I, 480
- Piano Concertos
  - K. 271, II, 172
  - K. 453, I, 423
  - K. 453, II, 357
  - K. 467, I, 448, 511–512, 560
  - K. 467, II, 35
  - K. 467, III, 643–644
  - K. 488, I, 10, 311
  - K. 488, III, 495
  - K. 491, I, 439–440, 442, 478, 563
- Piano Sonatas
  - K. 280, II, 447, 562
  - K. 282, II, 356
  - K. 283, I, 40, 41
  - K. 310, I, 169, 292, 547
  - K. 310, II, 222
  - K. 311, I, 211, 434
  - K. 311, II, 291
  - K. 330, II, 343
  - K. 332, I, 188
  - K. 333, I, 250
  - K. 457, I, 492
  - K. 457, III, 83, 398
  - K. 545, I, 2, 3, 4, 11, 41, 305
  - K. 545, II, 41, 239
- Piano Trio, K. 542, I, 650–651
- *Requiem*, K. 626
  - Confutatis, 636
  - Dies Irae, 530
  - Kyrie, 467
  - Lacrymosa, 558
- Rondo in A minor, K. 511, 268
- String Quartets
  - K. 387, III, 173
  - K. 421, I, 639
  - K. 428, I, 218
  - K. 428, II, 466
  - K. 428, IV, 153
  - K. 458, III, 204
  - K. 465, II, 371
  - K. 499, IV, 188
  - K. 515, III, 467
  - K. 590, II, 380
- String Quintets
  - K. 516, I, 352
  - K. 516, III, 529
- Symphonies
  - No. 39, K. 543, I, 561
  - No. 41, K. 551, "Jupiter," I, 157
  - No. 41, K. 551, "Jupiter," IV, 385
- Trio, K. 498, I, 238, 490
- Two-Piano Sonatas, K. 448, III, 314–315
- Violin Sonatas
  - K. 304, 557
  - K. 377, III, 494
  - K. 378, I, 394, 402
  - K. 379, I, 105
  - K. 379, II, 313, 317
- Wind Serenade, K. 388, I, 351
- "Das Neugeborne Kindelein," 132

Pergolesi, Giovanni Battista, *Stabat Mater*: Duetto, 396

Petzold, Christian, Minuet, 74

Praetorius, Michael, *Bransle Gentil*, 332

Purcell, Henry, *Dido and Aeneas*: Chorus, 580

Ravel, Maurice, *Valses Nobles et Sentimentales*, I, 519

Rossini, Gioacchino, *Petite Messe Solenne*: Crucifixus, 623

Scarlatti, Domenico, Sonata, K. 159, 399

Schubert, Franz
- "Der Atlas," 588
- "Des Fischers Liebesglück," 231
- "Heidenröslein," 244–245
- "Horch, Horch! Die Lerch," 470
- "Im Frühling," 271, 473
- Impromptus
  - D. 899, Op. 90/1, 42
  - D. 899, Op. 90/2, 161
  - D. 899, Op. 90/3, 194
  - D. 935, Op. 142/2, 148, 214
  - D. 935, Op. 142/3, 367
- *Ländler*, Op. 67/5, 506
- "Die Liebe hat Gelogen," 355
- *Moment Musical*
  - D. 780, Op. 94/1, 403
  - D. 780, Op. 94/6, 422
  - No. 3, D. 780, 610
- "Nacht und Träume," 343
- Piano Sonatas
  - D. 279, Menuetto, 175
  - D. 664, II, 55
  - D. 845, Op. 42, III, 421
  - D. 894, IV, 372
  - D. 958, I, 290, 580
  - D. 959, III, 539
  - D. 960, I, 559, 588
- *Die schöne Müllerin*: "Mein!", 481
- Schwanengesang, D. 957
  - "Am Meer," 594
  - "Ständchen," 208
- String Quartets
  - D. 804, III, 215
  - D. 887, I, 605, 621–622
- String Quintet, D. 956, II, 583
- Symphonies
  - No. 8, D. 759, II, 568
  - No. 9, "The Great," D. 944, I, 582
  - No. 9, "The Great," D. 944, IV, 635–636
- *Trauer-Waltzer*, Op. 9/2, 509
- *Valse Sentimentale*, Op. 50/13, 472
- *Winterreise*
  - "Einsamkeit," 573
  - "Gute Nacht!" 595
  - "Im Dorfe," 430–431
  - "Die Krähe," 533
  - "Wegweiser," 617–618

Schumann, Robert
- *Album for the Young*, Op. 68
  - "Armes Waisenkind," 263
  - "Stückchen," 257–258
- *Albumblätter*, Op. 99, V, 356
- *Carnaval*, Op. 9, "Eusebius," 358
- *Davidsbündlertänze*
  - Op. 6/5, 177
  - Op. 6/9, 615
- *Dichterliebe*, Op. 48
  - "Das Ist ein Flöten und Geigen," 514
  - "Ich Grolle Nicht," 429
  - "Ich Will Meine Seele Tauchen," 212
- Fantasy, Op. 17, I, 521–522
- Fantasy, Op. 17, III, 167, 581
- *Frauenliebe und Leben*, Op. 42, "Seit ich ihn gesehen," 164
- *Humoreske*, Op. 20, I, 586
- *Kreisleriana, Op. 16/5*, 453
- *Liederkreis*, Op. 39
  - "Anfangs Wollt'ich Fast Verzagen," 540
  - "Auf einer Burg," 221
  - "Mondnacht," 515
- *Novelette*, Op. 21/2, 624–625
- *Novelette*, Op. 21/4, 553
- *Novelette*, Op. 21/8, 518
- *Papillons*, Op. 2, Finale, 135
- Symphony No. 1, "Spring," Op. 38, I, 514
- Trio, Op. 63, I, 104
- *Vogel als Prophet*, Op. 82/6, 364
- "Widmung," Op. 25/1, 634

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Strauss, Josef, *Dynamiden*, Op. 173, Waltz No. 1, 393
Strauss, Richard, *Salome*, Op. 54, 590

Tchaikovsky, Peter Ilich
Symphonies
No. 4, Op. 36, I, 649
No. 5, Op. 64, I, 567
No. 5, Op. 64, II, 570
No. 5, Op. 64, III, 593
Telemann, George Philipp, "Die durstige Natur," 137
Tromboncino, Bartolomeo, "Non val aqua," 201

Verdi, Giuseppe
La Forza del Destino, "Son Giunta!" 538, 603
Requiem
Dies Irae: Recordare, 21
Kyrie, 534
Vivaldi, Antonio, RV 594, Dixit Dominus, 303

Wagner, Richard
Götterdämmerung: Act III, Scene III, 587
Tristan und Isolde: Act III, Introduction, 451
Wolf, Hugo, "Morgenstimmung," 594

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Subject Index

I. *See* tonic; tonic seventh chord; tonic triad
II. *See* supertonic seventh chord; supertonic triad
III. *See* mediant triad
IV. *See* subdominant seventh chord; subdominant triad
V. *See* dominant; dominant ninth chord; dominant seventh chord; dominant triad
VI. *See* submediant seventh chord; submediant triad
VII. *See* leading tone; leading-tone triad; subtonic

ABA form, 256–257, 261, 494, 498
accent, 38–41, 43. *See also* meter; rhythm
  melodic figuration and, 369–370, 373–376
  rhythmic figuration and, 386–387, 402
accidentals, 11, 12. *See also* notation, chromatic
  in figured bass, 53
  and modulation or tonicization, 258, 485, 488
  remote, 541–542
active tones, 7–8, 27–28. *See also* scale degrees
affect, 600
agogic accents, 38
antecedent-consequent phrases, 189–190, 237, 252, 257, 264, 438, 659
anticipations, 44, 60, 366, 402–406, 638
apparent chords, 231, 289–290, 334
  applied, 472–473
  applied V and V^7, 472–473
  diminished sevenths, 452–453, 475, 591
  Neapolitan $\frac{6}{5}$, 540
  seventh chords, 450–455, 472–473, 540, 591, 600
  ii^7, 453–454
apparent meter, 401
applied chords, 246–248, 252, 261, 266, 467–473, 668–669. *See also chords on individual scale degrees (tonic, supertonic, etc.)*
  apparent, 472–473
  augmented sixth chord, 548, 554–555, 565, 568–571
  diminished seventh chord, 458, 475
  and modulation or tonicization, 485–487
  Phrygian II (♭II), 526–527, 538
  in sequences, 473–481, 485–486, 557–558, 602, 604, 636–638
  in soprano line, 466
  ii, 461–463, 465, 469–471
  III, 469–470,
  iii, 472
  IV, 458, 461, 467–468, 471–472, 555–556, 589
  V and V^7, 247–248, 264, 462–467, 511–512
    cross-relation and, 459–461, 482
    doubling in, 458, 464
    in interlocking series, 474
    inversions of, 462–467
    mixture and, 583–584, 644
    parallel fifths/octaves and, 476
    in sequences, 473–481, 485–486
    voiceexchange and, 460–461, 555, 617–618
  $\frac{6}{5}$chords, 469, 565, 602
  VI, 458, 470–471
  ♮VII, in minor, 471, 478
  VII, VII^7 and $vii^{\circ 7}$, 458–461, 462–466, 468–471, 475, 479, 592
  $vii^{\circ 7}$, 414, 420–423, 458, 464
  vii^6 (and inversions), 458, 462, 466
appoggiaturas, 43, 60, 376, 378, 624
Arabic numerals
  capped, for scale degrees, 5, 49
  for figured bass, 48, 53–54
arpeggio, 7, 60, 77, 81, 117, 139, 264, 324, 366–369. *See also* chordal skip
  in bass line, 118, 136–137, 162, 176, 195, 202, 264, 270, 284, 352, 355, 491, 494, 643, 680
  large-scale, 435, 643
augmented second, 32–33
augmented sixth chord, 336, 434, 495, 547–573, 674–675. *See also chords on individual scale degrees (tonic, supertonic, etc.)*; diminished third chord
  applied chords and, 548, 554–555, 565, 568–571
  cadential $\frac{6}{4}$ and, 551–552, 560, 567–568, 572
  chromatic scale segments and, 556–559, 563, 566–569
  common-tone, 551–552, 555, 594
  dissonance treatment in, 551–552, 561–562, 565, 567–570, 572, 594
  double mixture and, 582–583
  doubling in, 550–551, 558
  "inversions" of, 565–568
  and modulation or tonicization, 563–565, 638–641
  "Neapolitan"/Phrygian aspects of, 549, 569, 572
  neighboring chords and, 337, 552
  parallel fifths and, 551–552, 560–561
  as passing chord, 549, 553–556, 559, 561–564, 566, 569
  in sequences, 557–558, 568–569, 603–606
  types of
    French $\frac{4}{3}$, 550, 551–552, 555, 560, 565, 567, 569, 584
    German $\frac{4}{3}$, 552–553
    German $\frac{6}{5}$, 550, 551, 555, 557, 560–562, 564–568, 571–573, 582, 584, 586, 611–613, 621, 677
    Italian $\frac{6}{3}$, 550–551, 560, 565
  voice exchange and, 554–555, 563–565, 567
  I and, 556–558, 563–564, 569–570, 642–643
  II and, 549, 565
  ii, 554–556
  IV and, 549–550, 553–557, 561
  iv, 563
  V and, 548–570
  V^7 and, 561–562
  V^7 and enharmonic relation to, 571–572, 613, 628, 638–641
  VI and, 558–559, 586
  vi, 563, 570
augmented triad, 584–589, 601–602, 610–611

balance, 81–82
Baroque period, 43, 53, 57, 124, 201, 274, 276, 376, 492
bass line, 53, 107–108, 133, 136–139. *See also* chromatic scale; figured bass; octatonic scale; octaves, equal subdivision of; pedal point; sequences; thirds, as equal subdivision of octaves; tonal plan; whole tone scale
  arpeggiated, 118, 136–137, 162, 176, 195, 202, 264, 270, 284, 352, 355, 491, 494, 643, 680
  ascending, 549
    by fifths, 117–118, 136–138, 197–198, 283–284, 286, 299, 306–308, 318–319, 350
    by fifths underlying, 628–629

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by step, 133, 137–139, 162–164, 224, 269–270, 273, 300, 310, 333, 366, 393–394, 415, 446, 529
by step, underlying, 269–270, 283
by thirds, 136–138, 233, 284–286, 568–569, 621, 647–649
by thirds, underlying, 133, 284–286
ascending scale, 239–241
chromatic, 248, 477, 527, 556, 601, 636
descending, 234, 312, 378, 462, 621
by fifths, 117, 164, 283–284, 302–306, 440–442, 462, 485–487, 511, 532, 585–586
by step, 133, 137–139, 149–151, 156, 200–201, 272–273, 275, 291, 300, 312–314, 330–334, 340–342, 366, 393–394, 444, 450, 479–481, 555–556, 569
by step, underlying, 475
by thirds, 133, 174–175, 195, 216, 284–286, 312–314, 334, 479–481
by thirds, underlying, 285, 334, 494, 621–622, 626–628
passing tones in, 290–291, 587–588
stepwise, 108, 137, 139–140, 151, 156, 168–169, 269, 291, 333, 479, 601
sustained, 118, 173, 344, 347–350, 452–453, 531, 574, 586
by thirds, 195, 216, 284–286, 621
bass tones, 56
beat, 35–37. *See also* accent; rhythm
strong or weak, and progressions, 38, 128, 142–143, 175–178, 214–215, 310, 354–357, 401–402, 477, 601
binary form, 491, 493, 498
block chord, 7

cadences. *See also* six-four ($\frac{6}{4}$) chord, cadential
with anticipations, 402–406
authentic, 118–119, 123, 127, 129, 252, 254, 264, 466
in a new key, 254–257, 259–260
in sequences, 303–304, 318
contrapuntal, 68–70, 72–75, 79, 85–89, 92, 95, 156. *see also* progressions, contrapuntal
deceptive, 237–238, 242, 252, 293, 432, 466–467
half (semicadence), 118–119, 156, 178, 182, 185, 252–253, 264, 293, 463
with Neapolitan sixth, 526–530
Phrygian, 200–202, 241–242, 318, 333, 435, 462, 549, 570
plagal, 231–232, 431, 451, 539
summary of, 241–242
with suspensions, 389, 397
unwanted cadential effect, 142
cadenza, 353, 531
canonic imitation, 283, 396, 441
cantus firmus, 68–69, 70, 73, 75–76, 79, 84, 86, 88
change of register, 76
chorale style, 66–67, 101–102, 355, 371, 376, 380–381, 502
chord, 7. *See also* arpeggio; *chords on individual scale degrees (tonic, supertonic, etc.)*; seventh chord; triad
altered diatonic, 461
block, 7
broken, 7
complete, 97, 99–100, 122, 124–126
construction of, 97–106
contrapuntal functions, 287–293, 498
fillers for, 103–105
incomplete, 99–100, 124, 153–154, 212
as unit of harmony, 61
chordal skip, 366–369, 395, 403, 528. *See also* arpeggio
parallel fifths/octaves and, 379, 381, 560
chromatic intermediates, 246
chromatic progressions, 248
chromatic scale
ascending bass, 476–477
ascending soprano, 458–459, 462
descending bass, 474–476, 479
descending soprano, 474
notation of, 542–543
segments of, and augmented sixth chord, 556–559, 563, 566–569
chromaticism, 12–13, 33, 632–652, 675–677
alterations, 533
contrary motion and, 548, 611–614
leading-tone based, 548
and modulation or tonicization, 264, 274, 539, 569, 633–637, 638–641, 643–644, 677
notation of, 533–535, 542–543, 572
parallel motion and, 599–611
sequences with, 589, 604–605, 636, 652, 677
voice exchange and, 460–462, 465–466, 482, 554–555, 563–565, 574, 611–612, 629
voice leading and, 585–586, 587–589, 595, 598–629, 676
Classical period, 257, 376, 463, 492, 627, 633, 641. *See also* eighteenth century
close position, 100–101, 415, 420
common tones, 120–122, 154, 163–164, 166, 173, 182, 195, 200, 209–210, 213–214, 221, 230, 235, 249, 264, 269–270, 347, 417, 441, 445, 494, 508–510, 551–552, 555, 594
common-tone augmented sixth chord, 551–552, 555, 594
common-tone diminished seventh chord, 590–593, 624, 637–638
common-tone "dominant seventh" chord, 594–595
common-tone modulation, 634–636, 638, 641–642, 644, 648, 677
complementary rhythm, 373–374, 631
composite sounds, 24–25
composition, strict v. free, 66–67
consequent phrases. *See* antecedent-consequent phrases
consonance, 26–29, 66
imperfect, 27
organization of, 69–70
perfect, 27
consonant skip, 76
continuation, 178
contraction, 57, 451, 474, 549, 573, 585–586
contrapuntal motion, 117
contrary motion, 71, 109–110, 111–112
in chromatic progressions, 548, 611–614
counterpoint, 65–95
beginnings, 70
cadences in, 68–70, 72–75, 79, 85–89, 92, 95, 156
chord functions for, 287–293, 498
fifth species, 67, 89–95, 366
first species, 67, 69–73, 74–75, 85, 87
florid, 89–92
fourth species, 67, 82–89, 90, 92, 366
passing tone in, 73–76, 92, 93
progressions of, 61, 62, 169–172, 498
second species, 67, 73–78, 84, 90, 366
suspensions in, 84–95
third species, 67, 78–82, 84, 90–91, 366
voice leading and, 62, 106–113
cross-relation, 269, 436–437, 459–461, 482, 527

da capo arias, 498
decorated resolutions, 398, 404
diatonic half step, 12
diatonic order, 17–18
diatonic scale, 6
diminished seventh chord, 32–33. *See also* applied chords; leading-tone seventh chord
apparent, 452–453, 591
applied, 458, 475
common-tone, 590–594, 624, 636–638
doubling in, 414–415, 421
enharmonic relationship and, 420, 637–641, 646–647, 650–651
expansion of seventh chords and, 624–627
and modulation or tonicization, 637–638, 647–648, 650–651
neighboring chords and, 415, 418–420
positions of, 413, 607–609, 624–627, 647
in series, ascending, 608–610
in series, descending, 606–608
I and, 413–420
iv and, 417–418, 453
VI and, 417–418
diminished third chord, 527, 532, 565–568
♯IV^7 and, 571
direct fifths and octaves. *See* hidden fifths and octaves
directed motion, 8
dissonance, 26–29. *See also* dissonance treatment
fourths as, 350–351
leaps into a, 158, 167, 350–351
perfect fourths as, 26, 69
V^7 as, 123–124
dissonance treatment, 28, 42–44, 79, 140–142, 166–167
in anticipations, 402–406
indirect, 404, 638
in augmented sixth chord, 551–552, 561–562, 565, 567–570, 572, 594

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dissonance treatment (*Continued*)
in common-tone augmented sixth chord, 594
in ninth chord. *see* ninth of chord
normal resolution of, 141–142
pedal point and, 407–408
rhythmic aspect of, 43–44
in seventh chords, 123–124, 149–152, 158, 209–213, 348, 440, 672–673. *see also* seventh of chord
in suspensions, 182, 209, 386–393, 396–402, 403–404
types of
delayed resolution, 215, 224–225, 237, 398–399, 448, 466
prepared, 166, 210, 397, 409, 638
transferred dissonance, 127, 129, 141, 396, 443
transferred resolution, 153, 348, 350–352, 416, 446–448, 477, 509, 510, 616
unprepared, 209, 350–352, 417, 510
unresolved dissonance, 234, 474, 509–510, 517–522, 562, 620
upward-resolving dissonance, 83, 351, 387, 397–398, 450–451
in $\frac{6}{4}$ chords, 182–187, 316, 340, 342–350, 359
divider, 268, 285, 435, 643
dominant, definition of, 58
"dominant eleventh chord." *See also* "eleventh chord," V^7 and, 517–522
dominant ninth chord (V^9_7), 506–517. *See also* ninth of chord
doubling and, 506
inversions of, 509, 513
pedal point and, 514–515
relation to II, 515
suspensions and, 506, 508, 511, 513, 515
V^7 and, 506–510, 513–514
VII^7 and, 513–514
dominant seventh chord (V^7), 61, 98–99, 213–214, 236–238, 252–253, 259–260, 274–275, 348, 449–450. *See also* applied chords; expansion, of V or V^7; seventh of chord
with altered fifth, 589–590
apparent, 591
augmented sixth chord, enharmonic relation to, 561–562, 571–573, 582–583, 613, 628, 638–641
common-tone diminished seventh chord and, 593
as dissonance, 123–124
doubling in, 126, 166
applied chords, 458, 464
"eleventh chord" and, 517–522
intensification of, by cadential $\frac{6}{4}$, 181–190
inversions of, 148–158, 268, 413, 418, 531–532, 657
moving to, 166–167, 561–562, 571–573, 613
relation to III, 269–270, 276
relation to $vii^{ø7}$, 418–419
"thirteenth chord" and, 393, 517–522, 673
voice exchange and, 613–618
I^6_4 and, 183
V^4_2, 148–154, 169–171, 177, 219, 247, 252–258, 319, 357, 414
V^4_3, 148–154, 168, 171, 233, 291, 314, 333, 345, 458, 462
V^6_5, 148–154, 169, 203, 219, 224–225, 246–248, 269, 274–275, 342, 351, 491
V^9_7, 506–510, 513–514
vii^{o7} and, 414–415, 417–419
$vii^{ø7}$ and, 413, 420–422
♭VII, in major, through mixture, 579–580
♮VII^7, in minor, 449
dominant sixth chord (V^6), 132–139
doubling in, 135–136
"dominant thirteenth chord." *See also* "thirteenth chord," V^7 and, 517–518
dominant tone, 61
dominant triad (V). *See also* applied chords; expansion
augmented sixth chord and, 548–570
augmented triad and, 584–585
back-relating, 189
doubling of, 99, 119, 135–136
expanding. *see* expansion, of V or V^7
intensification of, 157, 162, 168, 181–190, 200, 209, 264–265, 288, 462, 488, 539, 548, 553, 609, 640. *see also* six-four ($\frac{6}{4}$) chord
as key area, 244–260, 661. *see also* modulation; sonata-allegro form; tonal plan
leading to, 658
major V as key area in minor, 644–645
as minor triad (-v), 293–296, 313, 330–331, 492–494
and modulation or tonicization, 244–260, 266, 316–318, 333, 407, 435–436, 458, 485, 491–494, 498, 638, 641–642, 661
as passing chord, 290–291
pedal point and, 407–408, 515, 635, 649
Phrygian II and, 526–527
in progressions by fifths, 195–197, 269–270, 282–284, 286. *see also* bass line; sequences
relation to I and I^6, 27, 117–121, 132–139, 168, 189, 656–657
relation to ii and ii^6, 161–178, 195
relation to III and III^6, 264–270, 273–275, 284–286
relation to iii and iii^6, 334–335
relation to IV and IV^6, 161–178, 195, 234–235, 288
relation to iv and iv^6, 200–201
relation to VI, 234–236
relation to vi, 195–199
relation to VII and VII^6, 273–277
as voice-leading chord, 290
V^6, 133–139, 142–143, 203–204, 224, 291, 313, 532
doubling in, 135–136
as neighboring chord, 137, 149, 155–156
relation to IV^6, 203
relation to V^5_3, 139
relation to vi, 203
relation to VII, 274–275
V^6_4, as passing chord, 345
Dorian mode, 17
double neighbors, 10
double voice exchange, 329–330
doubling
in applied V chords, 458, 464
in augmented sixth chords, 550–551, 558
cross relations and, 436
in diminished seventh chords, 414–415, 421
fifth of chord, 119
in four-part writing, 98–100
in free textures, 103–105
of leading tone, 99, 119, 122, 142, 247, 288, 302, 458, 464
in Phrygian II, 527, 533
root of chord, 99, 124, 165, 209, 392, 414, 506, 558
in seventh chord, 99, 124–126, 209, 212–213
seventh of chord, 98–99
in suspensions, 389–392, 393
third of a chord, 99, 119, 126, 165, 236, 276, 414–415, 464
in $\frac{6}{3}$ chords, 165–166, 328, 338
in $\frac{6}{4}$ chords, 183–184, 342, 345, 355, 359
in I, 98–99, 119, 124
in I^6, 135–136
in ii or ii^6, 165–166
in ii^7 chords, 209, 212
in IV, 163, 178
in iv, 201
in iv^6, 201
in V chords, 99, 119, 135–136
in V^6, 135
in V^7 chords, 124–126, 166
applied chords, 458, 464
in V^9_7 chords, 506
in vi chords, 199, 236
in VI chords, 197, 558–559
in VII, 276
in vii^{o6}, 6, 99, 140, 142
in VII^6, 140
duple meter, 38–39
duration, 35, 37–38, 43

eighteenth century, 17, 19, 287, 526, 533, 615, 620. *See also* Baroque period; Classical period
"eleventh chord," 673
elision, 57, 358, 422–423, 425, 561–562. *See also* contraction
elided resolutions, 400
embellishments, 376, 421, 572–573, 592–595
emotion, scales and, 18–19, 25
English discant, 326
enharmonic equivalents, 13, 33–34
enharmonic modulation, 637–641, 646–652, 677
enharmonic relationship, 13, 33–34. *See also* notation, chromatic
of augmented sixth chord to V^7, 571–572, 582–583, 613, 628, 638–641
diminished seventh chord and, 420, 637–641, 646–647, 650–651
of Phrygian II chords, 533–535

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escape tone (échappée). *See* neighboring tone, incomplete
expansion. *See also* modulation; pedal point; tonicization; voice exchange
of cadential $\frac{6}{4}$, 352–353
of diminished seventh chord, 624–627
of $\frac{6}{3}$, 139
of I, 117–118, 123, 135–137, 291, 299, 302, 306, 355–356, 407, 454, 539, 569–570, 590, 594, 622–623, 644–645
by I^6, 133–134
by iii, 264–265, 286–287
by IV and IV^6, 230–231
by V^6, 137–138
by V^7 in inversion, 148–154
by vii, 238–239
by $vii^{\circ 6}$, 139–143, 148–149
of ii, 345–346
of ♭II (Phrygian II), 536–540, 644–645
of ii or ii^7, 172–175, 216–219, 345–346
of ♭III, 644–647
of III♯, 642–643
of IV, 172–175, 202–203, 222, 345–346, 454, 469, 586–587, 611
of ♯IV, 647
of V or V^7, 117–118, 123, 127, 149, 154–158, 235, 286, 291–292, 345–346, 454, 498, 551, 610–611, 624–627
by iii^6, 335
by V^6, 133–134
of VI, 489
by VI-IV, 270
of vi, 498
of VI♯, 643–644
of ♭VI, 621–623, 641–642

fauxbourdon, 326
fifteenth century, 387
fifth of chord, 7, 48, 49–50, 54–56, 59, 286
altered, 584–590, 601–602, 610–611
doubling of, 119
omission of, 99–100, 120, 124, 209, 212, 506
fifth relationship, 25, 61, 117, 137, 162–163, 196, 230–231, 283–284
fifths, 22
accented, 77, 79–80
ascending, 283–284
augmented, 32–33, 48, 158, 559, 584–589, 610. *see also* augmented triad
descending, 283, 473–476
diminished
horizontal (melodic), 88, 111–112, 127, 140, 264, 283–284
in parallel fifths, 111, 212, 330
vertical, 30–32, 140–142, 165, 169, 212, 265, 269, 302, 413–416, 532, 551, 567, 590, 608–609
hidden, 112–113, 126, 136, 154, 415–416, 464
parallel, 71, 104, 110–111, 163, 165–166, 197, 199, 212, 222–225, 236, 288, 306, 326, 330, 366, 378–380, 381, 404–405, 421, 464, 476, 560–561
augmented sixth chord and, 551–552, 560–561
figuration and, 366, 368, 378–380
perfect, 25–27, 30–31, 72–73, 111, 138, 283
progression by, 195–197, 269–270, 282–284, 286
figurated texture, 60–61
figuration, 60, 92–95, 120–122. *See also* anticipations; arpeggio; fifths; neighboring tone; octaves; passing tone; pedal point; suspensions
melodic, 364–380, 508, 635, 664–665
in minor, 378
of Phrygian II, 537
rhythmic, 385–408, 665
figured bass, 53–59, 101, 143, 147, 160, 180, 193, 206–207, 227, 265, 366, 375, 414, 10686–10687
five-six technique, 173–174, 200, 231, 250, 469
ascending, 300–302, 309–312, 445–446, 601–604
descending, 300, 312–314, 316–318, 333, 599–600
root position variant, 173–174, 312, 314
five-three ($\frac{5}{3}$) chord, 52–54, 282–295, 304–306, 661. *See also* five-six technique; six-four chord, cadential; six-four chord, consonant; six-three chord; *triads on individual scale degrees (tonic triad, supertonic triad, etc.)*
with added sixth, 451–452, 540
neighboring, 230, 291–293
as passing chord, 233, 269
in a series, 440
as voice-leading chords, 287–288, 315
florid counterpoint, 89–92
form. *See also* sonata-allegro form
ABA form, 256–257, 261, 494, 498
binary, 491, 493, 498
rondo, 494, 495, 625–626, 644
sonata-allegro form, 258, 261, 435, 491, 496, 498, 642, 644
three-part, 299, 493. *see also da capo* arias
and V as key area, 244–260, 661
in minor, 644–645
Fortspinnung, 299–300, 324, 443, 476
four-part writing, 97–113, 213, 399, 441, 527, 550, 678
fourteenth century, 387
four-three ($\frac{4}{3}$) chord, 59, 452–453, 462, 479. *See also* augmented sixth chord; dominant seventh chord; sequences, with seventh chords; supertonic seventh chord
as passing chord, 479
fourths, 22
augmented, 30–31, 127, 140–143, 158, 165, 169, 269, 302, 357, 413–416, 532. *see also* tritone
diminished, 32–33, 122, 138, 158, 342, 610
as dissonance, 350–351
doubly augmented, 552–553
parallel, 328
perfect, 26–29, 69, 108, 140, 340, 414–415, 418, 619
as consonance, 26–27, 29, 340
as dissonance, 26, 29, 69
stable, 345
unprepared, 350–352
unresolved, 517–522
four-two ($\frac{4}{2}$) chord, 59, 407, 444, 452–453. *See also* dominant seventh chord, V^4_2; sequences; supertonic seventh chord
French sixth. *See* augmented sixth chord
fugue, 66, 300, 387, 492
fundamental tone, 24–25

German sixth. *See* augmented sixth chord
glissando, 403
grace notes, 462, 548, 606

half steps, 6
chromatic, 12–13, 22–23, 247, 269, 377, 551
diatonic, 12, 31, 377
in major scales, 6, 10
as melodic intensifiers, 10
in minor scales, 14, 15, 16
half-diminished seventh chord, 58. *See also* leading-tone seventh chord
I and, 414, 420–425
harmonic analysis, 56, 143
harmonic minor, 15
harmonic motion, 117
harmonic syntax, 175–178, 187, 204–205
harmony, 61–62, 127–128
hemiola, 40, 290
hidden fifths and octaves, 112–113, 126, 136, 154, 415–416
hypermeasures, 41–42, 224
hypermeter, 42

incomplete neighbors, 10
inner voices, 98, 107–108, 111–112, 122–123, 158, 170, 213, 269, 290, 387, 391, 403, 519, 613. *See also* voice crossing
instrumental style, 101, 182, 213, 350, 400, 445. *See also* keyboard style; texture
intensity, 24
intermediate harmonies, 162–169, 174, 176, 197, 200, 203–205, 462
intervals, 7, 21–34
compound, 23
consonant, 26–29
dissonant, 26–33, 414
horizontal (melodic), 7, 21, 66
inversions of, 23–24
numerical size of, 21–23
perfect, 77
qualities of, 21–23
between scale degrees, 30–34
stability of, 26–29
vertical (harmonic), 7, 21, 26, 69, 73, 519
inversions. *See also specific chords*
of intervals, 23–24
of seventh chords, 59
of triads, 52–57

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Ionian mode, 17
Italian sixth. *See* augmented sixth chord
key areas, nontonic, 245–260, 265–266, 268–269, 278, 491, 644–645. *See also* modulation; tonal plan; tonicization
key definition, 32, 70
key signatures, 11–12
  in figured bass, 53
  of major keys, 11–12
  of minor keys, 16
keyboard progressions, 656–677
keyboard style, 101–102, 106, 324, 459
key-defining progression, 31
keys, 3–5
  major, 3–13, 17–19
  minor, 13–19
  parallel, 17
  relative, 16–17

leading tone, 10, 14, 135, 175, 182, 210, 273, 316, 318, 320, 333, 459, 491–492
  doubling of, 99, 119, 122, 142, 247, 288, 302, 458, 464
  temporary, 246, 458, 482, 548
leading-tone chromaticism, 548
leading-tone seventh chord (VII^{7}), 412–423, 531, 666. *See also* applied chords; applied leading-tone chord
  diminished (vii$^{\circ 7}$), 413–420, 513. *see also* diminished seventh chord; seventh of chord
    inversions of, 417–418, 421–422, 458
    in major, through mixture, 434
  half-diminished (vii$^{\emptyset 7}$), 414, 420–423, 458, 513
    inversions of, 414
  relation to I, 414–416, 420–421, 464, 469
  relation to ii, 451–452
  relation to IV, 451–452
  relation to V^{7} (and inversions), 418–419
  V$^{9}_{7}$ and, 513–514
leading-tone triad (VII). *See also* applied chords; expansion; soprano line; subtonic triad; triad, diminished
  altered, through mixture, 581–582
  doubling in, 99, 140, 142, 276
  and modulation or tonicization, 497–498
  moving to III, 273–274
  moving to V, 274–275
  relation to V, 273–277
  relation to V^{6}, 274
  VII$^{5}_{3}$, 142–143, 276–277, 307, 312
    vii$^{5}_{3}$, 276–277, 311
    vii$^{\circ 6}$, 462
  VII^{6}, 154–156, 169–170, 175–178, 233–234, 273, 462
    vii^{6}, 458
    doubling in, 140
    relation to V, 148–152
leading-tone triad (vii$^{\circ 6}$), 139–143
    doubling in, 99, 140, 142
    harmonic syntax, 175–178
    moving to, 169–170
    relation to V, 148–152
    typical figures for bass and soprano, 154–156
leaps
  across the bar, 77–78
  consonant, 60, 107–108, 149
  descending, 170
  into a dissonance, 158, 167, 350–351
  dissonant, 108, 169, 210, 350–351, 532
  in inner voices, 158, 213
  subdividing, 366
  tension and, 68–69
Locrian mode, 17
Lydian mode, 17

measure groups, 41–42, 224
mediant triad (III), 263–277. *See also* expansion
  applied chords and, 469–470
  beginning a sequence, in minor, 320–321
  between I and IV, 494–495
  between I and V
    in major, 266–268, 435–436, 583, 642–643
    in minor, 273
  between i and V, in minor, 264–266
  as key area, in minor, 246, 265–266, 268, 278
  and modulation or tonicization, 265–267, 275, 278, 283, 294–295, 320–321, 333, 469, 491–495, 581, 606–607, 638, 642–643
  moving to I, 661
  moving to i, 268–269
  in progressions by fifths, 269–270, 283
  relation to I, 435–436
  relation to V, 264–270, 273–275, 334–335
  relation to V^{7} in inversion, 269–270, 278
  relation to VI, 264
  III♯, in major, through mixture, 435, 472, 578, 581, 615–616
    and modulation or tonicization, 570–571, 633–634, 642–643
  III♯ and ♯III, in minor and modulation or tonicization, 642–643
  (iii^{6}) representing V, 334–335
  ♭III, major, through mixture, 642–643
    and modulation or tonicization, 635, 644–645
mediant triad (iii)
  applied chords and, 472
  between I and V, in major, 284–286
  and modulation or tonicization, 498
  relation to I^{6}, 272
  relation to V, 284–286
  relation to VI, 270–271
  III♯, in major, through mixture, 472
melodic fluency, 68–69
melodic line, and voice leading, 62
melodic minor scale, 15–16
melodic motion, 107, 117, 185–187
  change of direction in, 107–110, 158, 169
  conjunct, 107
  disjunct, 107. *see also* arpeggio; chordal skip; leaps
melody, harmonizing, 146
meter, 38–42, 90, 127–128, 142, 184, 273, 285, 401–402. *See also* accent; rhythm
  apparent, 401
  change of, 40
  compound, 39–40
metric position, 386–387
metrical accent, 38–40
minor, relative, 16–17
Mixolydian mode, 17
mixture, 32, 50, 289, 426–437, 578–584, 666–667
  combining modes, 427–437
  definition of, 17, 427
  preparation for, 583–584, 643–646
  products of
    in major, 427–433, 434, 507, 533–534, 550, 558, 578–584, 591
    in major, expanded, 641–645
    in minor, 430–431, 432–433
    in minor, expanded, 645–647
  seventh chords and, 584
  terminology for, 427
  types of
    double, 578, 582–583, 645–647
    secondary, 435–436, 472, 558, 578, 581–582, 633
    simple, 558, 578–580, 645
modes, 17–18
  combining, 427–437
  Dorian, 17
  Ionian, 17
  Locrian, 17
  Lydian, 17
  Mixolydian, 17
  Phrygian, 17–18, 200, 526
modulation, 245–258, 420, 484–498, 633–641. *See also* expansion; tonicization; *specific chords on individual scale degrees*
  accidentals and, 258, 485, 488
  applied chords and, 485–487
  augmented sixth chord and, 563–565, 638–641
  chromatic, 539, 636
  by chromatic inflection, 264, 274, 569, 633–634, 677
  common-tone, 634–636, 638, 641–642, 644, 648, 677
  diatonic, 484–498, 669–672
  diminished seventh chord and, 637–638, 647–648, 650–651
  enharmonic, 637–641, 646–652, 677
  goals of, 485
  phrase modulation, 256
  to Phrygian II (♭II), 536–540, 639, 642, 644
  pivot chord and, 248–254, 256, 261, 486–487, 490, 538–539, 633–635, 637, 661
  sequences and, 316–318, 485, 487–490, 643–644
    chromatic, 636, 643–644
  soprano line and, 488
  through I$^{5\text{-}6}$, 249–251

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transient ("passing"), 490
to II, 485–486, 536–537, 571
to ii, 496–497
to III, 265–267, 275, 278, 283, 294–295, 320–321, 333, 469, 581, 606–607, 638, 642–643
to iii, 491–495, 498
to ♭III, major, through mixture, 635, 644–645
to III♯, in major, through mixture, 570–571, 633–635, 642–643
to III♯ and ♯III, in minor, 642–643
to IV, 454, 485–486, 538–539
to iv, 491–492, 563
to ♯IV, 647–648
to V, 245–260, 266, 316–318, 333, 407, 435–436, 458, 485, 491–494, 498, 638, 641–642, 661
to VI, 485–486
to vi, 494–496, 570
to ♭VI, in major, through mixture, 558–559, 621–623, 634–635, 641–642, 649–652
to ♯VI and VI♭, in major, through mixture, 645
to VI♯, in major, through mixture, 643–644
to VII, 497–498
to ♮VII, 571
motion, 7–8, 66, 68–69. *See also* contrary motion; melodic motion; oblique motion; parallel motion; similar motion
contrapuntal, 162
contrary, 71
similar, 71, 77
types of, 71–73
motivic design, 248, 294, 355, 633, 641, 649–652

natural VII. *See* subtonic triad
Neapolitan sixth. *See* Phrygian II
neighboring chords, 291–292, 452–453, 471, 498, 588–590
augmented sixth chords and, 337, 552
diminished seventh chords and, 415, 418–420
double-neighbor figures and, 155
French sixth as, 552
incomplete, 138, 149, 152, 156, 350
inversions of V^7 as, 148–153, 155–157
Phrygian II as, 535, 539
$\frac{5}{3}$ chords as, 230, 291–293
$\frac{6}{3}$ chords as, 137, 139–140, 149, 292–293, 332, 337, 353, 357, 471
$\frac{6}{4}$ chords as, 230, 344, 350, 353
$\frac{6}{5}$ chords as, 149
I, 156–157
V^6, 137, 149, 155–156
neighboring tone, 8–9, 27, 67, 366, 369–380
accented, 43, 373–376, 380, 615
accented incomplete, 43, 60, 376
chromatic, 377–378, 542, 569, 590
consonant, 379
double, 10, 78–81, 91, 93, 151–152, 352, 371, 378, 498
double incomplete, 372
incomplete, 10, 43, 93, 129, 138, 148, 156, 350, 372–374, 376, 380
in soprano line, 373
lower-neighbor figures, 119–120
parallel fifths/octaves/unisons and, 378–380
upper-neighbor figures, 121–122
nineteenth century, 267, 287, 292, 376, 492, 509, 511, 517, 519, 553, 567, 593–594, 605, 620, 626
ninth chord. *See also* dominant ninth chord; ninth of chord
applied dominant chords, 510–511
in interlocking series, 511
seventh chord and, 506–510, 515
unresolved dissonance, 509–510
ninth of chord
as melodic figuration, 508–509, 511–512
preparation for, 510–511
resolution of, 506–511, 513, 515
ninths, 23, 79, 176
unprepared, 510
notation, chromatic, 533–535, 542–543, 572. *See also* enharmonic relationship
note-against-note texture, 60–61, 66, 69
numerical symbols, 388

oblique motion, 70–73, 77, 85, 109–110, 380, 405, 613. *See also* anticipations; suspensions
octatonic scale, 627
octave displacement, 24
octave equivalence, 5, 23–24
octaves, 5–6, 23, 25–27
accented, 77, 79–80
diminished, 33
equal subdivision of, 420, 610, 619–629, 637, 648–649
hidden, 112–113, 126, 136, 154, 415–416
major 3rds, divided into, 620–622
minor 3rds, divided into, 622–623
parallel, 103, 110–111, 113, 146, 168, 197, 199, 201, 287–288, 306, 328, 338, 352, 366, 368, 379–380, 381, 404–405, 476, 515, 527, 550
figuration and, 366–369, 378–380, 404–405
tritones, divided into, 622–623
whole steps, divided into, 627–629
open position, 100–101, 165, 183
organ point. *See* pedal point
ornaments. *See* embellishments
outer voices, 98, 164, 309, 405, 415, 459–460, 479, 561, 605. *See also* bass line; sixths, parallel; soprano line; tenths, parallel; voice exchange
intervallic relationships between, 304
sixths between, 327–328
overlap, 41, 70, 106, 224, 299–300, 324, 422, 625
overlapping voices, 106, 615
overtone series, 24–26, 102

parallel major/parallel minor, 17
parallel motion, 71, 109–110, 207, 326–332, 334. *See also* applied chords; *individual intervals (fourths, sixths, tenths, thirds)*
in chromatic progressions, 599–611
forbidden, 109–111, 368–369, 379, 404–406. *see also* fifths; octaves; unisons
partials, 24–25, 102
passing chords, 139, 452–453, 454, 460, 479, 491
augmented sixth chord as, 549, 553–556, 559, 561–564, 566, 569
inversions of V^7 as, 148–158
Phrygian II and, 527, 540–541, 582
$\frac{4}{3}$ chords as, 479
$\frac{5}{3}$ chords as, 233, 269
$\frac{6}{3}$ chords as, 139–140, 155, 218, 235, 267, 273, 290–291, 333–334, 337, 532
$\frac{6}{4}$ chords as, 290–291, 316, 345–351, 354, 357, 359, 452–453, 614
I as, 156–157
I^6 as, 172–173, 178, 218
IV as, 285
IV^6 as, 235, 275
V as, 290–291
vii^6 as, 330
passing figures, 153
passing tone, 8–9, 12, 27, 57, 60, 67, 366, 369–370, 460
accented, 43, 93–95, 182–184, 187, 223, 369, 373–376, 380
in bass line, 290–291, 587–588
chordal support for, 289–290
chromatic, 12–13, 33, 92, 95, 251, 377–378, 405, 430, 454, 463, 476, 541–542, 549, 553, 566, 585, 587–589, 599–602, 611
consonant, 369, 379
in counterpoint, 73–76, 92
descending, 120–121
parallel fifths/octaves/unisons and, 378–380
♯$\hat{4}$ and ♮$\hat{4}$, 549, 553–554
♭$\hat{6}$ as, 555
pedal point, 452, 454–455, 518–519, 521, 635
dissonance treatment and, 407–408
dominant, over II, 514–515
in upper voice, 407, 454
I and, 406–408, 419, 452, 468, 514, 539
V and, 407–408, 515, 635, 649
$V\frac{9}{7}$ and, 514–515
period, 189–191
Petzold, Christian, 73
phrases, 41–42
antecedent-consequent, 189–190, 237, 252, 257, 264, 438, 659
elision, 422–423
modulation of, 256
phrase overlap, 224, 311
phrase rhythm, 177–178, 189
Phrygian cadence, 200–202, 241–242, 318, 333, 435, 462, 549, 570

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Phrygian mode, 17–18, 200, 526
Phrygian II (♭II), 525–543, 582, 673. *See also* expansion
  apparent Neapolitan $\frac{6}{3}$, 540
  apparent seventh chords and, 450–455, 540, 591, 600
  applied chords and, 526–527, 538
  augmented sixth chord and, 569, 572
  doubling of, 527, 533
  enharmonic relationship and, 533–535
  figuration of, 537
  indirect progression of, 528
  in major, through mixture (including ♭II♭), 533–535, 537–540, 570, 582–583
  in minor, 526, 529–531, 533–535, 537–539, 570
  and modulation or tonicization, 536–540, 639, 642, 644
  moving to V, 526–527, 539
  as neighboring chord, 535, 539
  relation to I, 529–530, 535, 536
  in sequences, 557–558
  soprano line and, 526–530, 533, 537
  in $\frac{6}{4}$ position, 535
  II° (and II), 533
  ii°^{6} (and II), 526–530
  ♭II $\frac{5}{3}$, 532–533
    doubling in, 533
  ♭II (Neapolitan sixth), 526–532, 534–535
    cross relations and, 527
    doubling and, 527
  ♭II $\frac{6}{4}$ (Neapolitan $\frac{6}{4}$), 535, 572–573
  IV and, 539
  V and, 526–527
  VI and, 529–530
Picardy third, 432–433, 438, 454
pitch, 24
pivot chord, in modulation or tonicization, 248–254, 256, 261, 486–487, 490, 538–539, 633–635, 637, 661
plagal cadences, 231–232, 431, 451, 539
plagal progressions, 232, 344, 453–454
polyphonic melody, 328–329, 349, 367, 387
portamento, 403
preparation, 85
presentation, 178
progressions, 61, 369
  chromatic, 248
  contrapuntal, 61, 62, 169–172, 498. *see also* bass line; neighboring chords; passing chords
    by fifths, 195–197, 269–270, 282–284, 286
    by fifths and thirds, 282–287
  harmonic. *see* fifth relationship
  harmonic, subordinate, 230
  incomplete harmonic, 177, 230
  key-defining, 31
  large-scale, 61, 119, 139, 149, 246, 264, 270, 293, 536, 584, 649–652
  linear, 139
  melodic, 8, 12, 120, 170–172, 469
  plagal, 232, 344, 453–454
  rhythm and, 127–128, 142–143, 175–178, 214–215, 310, 354–357, 401–402, 477, 601
  subordinate, 177, 195, 197, 217, 230, 531
prolongation. *See* expansion
PRSV (prepared and resolved in the same voice), 209, 222

quadruple meter, 38
quatrain, 257–259

ranges, vocal, 98
recapitulation, 11
reductions, 48, 66, 678–681
register, change of, 76
relative major/relative minor, 16–17
Renaissance, 25, 43, 326
repose, 68
resolution. *See* dissonance treatment
rests, 36, 531
rhythm, 35–46
  beat, 35–37
  complementary, 373–374, 631
  dissonance treatment and, 42–44
  figuration and, 385–408, 665
  phrase rhythm, 177–178, 189
  and progression, 127–128, 142–143, 175–178, 214–215, 310, 354–357, 401–402, 477, 601
rhythmic accent, 39–40
rhythmic groups, 41
Roman numerals, 49–50, 56–59, 427
Romantic period, 18, 257, 627, 633, 641. *See also* nineteenth century
rondo, 494, 495, 625–626, 644
root of chord, 7, 26–27, 31, 47–60
  doubling of, 99, 124, 165, 209, 212, 392, 414, 506, 558
  tripling of, 99
root position, 52. *See also* five-three ($\frac{5}{3}$) chord
  seventh chord in, 57–59, 100, 113, 441–442
"rule of three," 87

scale degrees, 5, 8. *See also specific chords on individual scale degrees*
  active, 8, 27–28
  Arabic numerals, capped, for, 5, 49
  in harmonizing a melody, 146
  intervals between, 30–34
  in major, 8, 12, 13–14, 30–32, 50, 58–59, 378
  in minor, 13–16, 30–33, 50–52, 58–59, 378
  mixture and, 427, 430, 434
  as roots of chords, 48–50, 56
    stable, 8, 27–28
    ♭$\hat{2}$ and ♮$\hat{2}$, 526–529, 533
    ♭$\hat{3}$ and ♮$\hat{3}$, 430–431
    ♯$\hat{3}$, 432–433
    ♯$\hat{4}$ and ♮$\hat{4}$, 247, 462–465, 565–567, 609–610, 611, 619, 622, 647
    as passing tone, 549, 553–554
    ♭$\hat{6}$ and ♮$\hat{6}$, 427–429, 548, 550
    ♭$\hat{6}$ as neighbor tone, 559
    ♭$\hat{6}$ as passing tone, 555
scale steps, 5
scales, 4–5. *See also* half steps
  ascending, 239–241
  chromatic. *see* chromatic scale
  diatonic, 6
  emotion and, 18–19, 25
  harmonization of, 239–241, 270–272
  major, 6, 17–19
  minor, 13–19
    harmonic, 15
    melodic, 15–16, 378
    natural, 14, 16
    octatonic, 627
  whole tone, 619–621, 627–629
Schenker, Heinrich, 490
Schenkerian analysis, 490
Schoenberg, Arnold, 178
seconds, 22, 26
  augmented, 236, 481, 533, 560
  horizontal, 31, 73, 293, 309, 319, 328, 527, 619
  melodic augmented, 419
  vertical, 30, 32, 69, 108, 149, 608
semitone. *See* half steps
sentence, 118, 175, 178, 226
sequences, 392, 393–396
  with applied chords, 473–481, 485–486, 557–558, 602, 604, 636–638
  with augmented sixth chord, 557–558, 568–569, 603–606
  authentic cadences and, 304, 318
  chromatic, 589, 604–605, 636, 652, 677
  diatonic, 297–321, 662
  by fifths
    ascending, 300, 306–312, 318–320, 395, 481
    descending, 300–305, 440–442, 485, 511–512
  and five-six technique
    ascending, 300, 302, 309–312, 445–446, 601–604
    descending, 300, 312–314, 316–318, 333, 599–600
  in minor, 318–321
  and modulation or tonicization, 316–318, 485, 487–490, 643–644
    chromatic, 636, 643–644
  Phrygian II and, 557–558
  seventh chords in, 440–446
  by step
    ascending, 302, 306, 310, 315, 322
    descending, 303–304, 308, 312–314
  by thirds
    ascending, 478–479, 557–558, 568
    ascending, melodic, 519
    descending, 312–314, 333–334, 445, 479–481, 489, 604
seventeenth century, 101, 526
seventh chord, 57–60, 393–394, 599–600, 667–668. *See also* applied chords; diminished seventh chord; dominant

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seventh chord; leading-tone seventh chord; seventh of chord; subdominant seventh chord; supertonic seventh chord
with added dissonance, 506–522
apparent, 450–455, 472, 540, 591, 600
dissonance treatment in, 123–124, 149–152, 158, 209–213, 348, 440, 672–673
doubling of, 99, 124–126, 209, 212–213
"elevenths" and "thirteenths," 517–522
extended, 448–449
figured bass symbols for, 59–60
incomplete, 124, 153–154, 156, 166–167, 212, 441
interlocking series, 213, 441, 474, 511, 608
inversions of, 59, 148–158, 443–445
melodic origin of, 57–58
ninth chord and, 506–510, 515
ninths and, 506–507
qualities of, 58
remembering, 60
root position of, 57–59, 100, 113, 441–442
in sequences, 440–446
soprano line and, 448
as substitution chords for triads, 440
through mixture, 584
seventh of chord
doubling of, 98–99
parallel fifths and, 421
preparation for, 166–167, 210–211, 212–213, 222–224, 226, 441, 445–446, 527, 580
resolution of, 76, 79, 90–91, 149–150, 156, 209, 222–224, 348–349, 415, 441–443, 507, 508–509, 608–609
delayed, 448
transferred, 126, 348, 446–448
transfer of, 446–448, 509
sevenths, 22, 26, 30, 69, 73, 76, 79, 91. *See also* seventh chord
diminished, 23, 32, 413–420, 606–608
voice exchange and, 614–615, 625–626
similar motion, 71, 77, 109
simultaneous motion, 109–110
six-five ($\frac{6}{5}$) chord, 59, 148–154, 451–452. *See also* augmented sixth chord; dominant seventh chord; four-two chord; subdominant seventh chord; supertonic seventh chord
applied, 469, 565, 602
as neighboring chord, 149
in sequence, 302, 316, 489
six-four ($\frac{6}{4}$) chord, 52–56
accented, 342–344, 350, 359
cadential, 181–190, 199, 202, 209, 215–216, 248–249, 252, 279, 316, 341–342, 352–353, 526, 560, 592, 659, 681
augmented sixth chord and, 551–552, 560, 567–568, 572
consonant, 340, 355–357
dissonance treatment and, 182–187, 316, 340, 342–350, 358–359
doubling in, 183–184, 342, 345, 355, 359
moving to V^7, 183
neighboring, 341–342, 344, 347, 349–350
noncadential uses of, 187–188
oscillating, 356–357
as passing chord, 290–291, 316, 345–351, 354, 357, 359, 452, 614
as resolution to suspension, 391
special treatment of, 350–355
stable (consonant), 355, 358, 418, 535
six-three ($\frac{6}{3}$) chord, 52–56, 283, 304–306, 325–337, 663. *See also* dominant triad; expansion; five-six technique; leading-tone triad; subdominant triad; supertonic triad; tonic triad
with added fourth, 452
altered, 586
chromatic, in parallel motion, 405, 530, 599–600
doubling in, 165–166, 328, 338
moving in thirds, 334
as neighboring chord, 137, 139–140, 149, 292–293, 332, 337, 353, 357, 471
in parallel motion, 326–332, 334
as passing chord, 139–140, 155, 218, 235, 267, 273, 290–291, 333–334, 337, 532
as resolution to suspension, 390, 392
substitution chord for $\frac{5}{3}$, 135–136, 202, 336
in transitional passages, 326–327
as voice-leading chord, 337
$\frac{6}{3}$ (first inversion) and $\frac{5}{3}$ (root position), 133–139, 165, 269, 290. *see also* five-six technique
$\frac{6}{3}$ (first inversion) and $\frac{5}{3}$ (root position), 52–54
sixths, 22–23, 26–27, 29–31, 108, 109
augmented, 23, 33. *see also* augmented sixth chord
parallel, 202, 222, 328–332, 334, 344, 347, 350, 359, 374, 386, 397, 507
unresolved, 517–522
in voice exchange, 611–619
slide (glissando), 403
sonata-allegro form, 258, 261, 435, 491, 496, 498, 570, 642, 644
soprano line, 98, 100, 101–102, 107–108, 120
altered V^7 and, 589
anticipations and, 402–406
applied chords in, 466
ascending motion by step, 154–156, 170, 197–198, 202, 239–241, 310, 462, 557–558
ascending motion, chromatic, 458–459, 462
cross-relations and, 459
descending motion, chromatic, 474
descending motion by step, 120–121, 149, 154–155, 163, 199, 222–223, 235–237, 272–273, 289–290, 306–307, 370, 415
descending scale, 235
doubling in suspension, 390
and "eleventh" and "thirteenth" chords, 519
expansion of chords, 133
harmonization of, 124, 142, 177, 203, 240, 258, 373. *see also* scales, harmonization of
incomplete neighbors and, 373
and modulation or tonicization, 488
Phrygian II and, 526–530, 533, 537
and polyphonic melody, 367
seventh chords and, 448
V^7 and, 124
$vii^{\circ 7}$, $vii^{\circ}\frac{6}{5}$, and $vii^{\circ 7}$, 415–416, 419–421, 464
applied $vii^{\circ 7}$, 466
spacing, 100–103
species. *See* counterpoint
stability, 70
stable tones, 7–8, 66
steps. *See* half steps; whole steps
strong beats, 38
subdominant seventh chord (IV^7), 208–224, 660
inversions of, 224
relation to $\sharp II^7$, 449
$IV\frac{6}{5}$, 224–225
$\sharp IV^7$, 571
subdominant triad (IV). *See also* expansion
applied chords and, 458, 461, 467–468, 471–472, 555–556
chords applied to IV, 467–468, 589
augmented sixth chord and, 549–550, 553–557, 561, 563
diminished seventh chord and, 453–454
doubling in, 163–164, 178, 201
expansion of. *see* expansion, of IV and modulation or tonicization, 454, 485–486, 491–492, 538–539, 563
moving to cadential $\frac{6}{4}$, 189–190
moving to V, 161–170, 221
moving to vii^6, 169–170
as passing chord, 285
Phrygian II ($\flat II$) and, 539
as pivot chord, 248–249
in progression by fifths, 282–284
relation to I, 230–231, 233, 284–286, 334–337, 494–495
relation to I^6, 168, 230, 233–234, 284
relation to ii, 221
relation to ii^6, 167–168, 174–175, 195–196, 264–265, 267, 269–271, 284
relation to $\flat II^6$, 529–531, 539
relation to V, 161–178, 195–196, 234–235, 288
relation to VI, 195–196, 270–271, 284–286
relation to vi, 238–239
relation to VII^7, 451–452
$IV\flat$, in major, through mixture, 427–428
$iv\flat$, in major, through mixture, 431
$\sharp IV$, and modulation or tonicization, 647–648
IV^6, 194–205, 659
doubling in, 201
modulations and, 538–539
moving to V^6, 203–204
as passing chord, 235, 275
relation to I, 168, 230, 233–234, 284
relation to vi, 197–199, 238–239
iv^6
doubling in, 201
relation to $IV\frac{5}{3}$, 201–202

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subdominant triad (iv)
augmented sixth chord and, 563
diinished seventh chord and, 417–418
and modulation or tonicization, 491–492, 563
relation to V, 200–201
submediant seventh chord (VI^7), 295, 458
submediant seventh chord (vi^7), 440
submediant triad (vi), 194–205. *See also* expansion
applied chords and, 458, 470–471
augmented sixth chord and, 558–559, 586
bass line arpeggio, I-VI, and, 491, 494, 643
diminished seventh chords and, 417–418
doubling in, 197, 558–559
and modulation or tonicization, 485–486, 494–496
moving to IV or II, 216, 285–286
moving to V, 195–199, 479
moving to v, 293–294
Phrygian cadence and, 200–202
Phrygian II and, 529–530
in progression by fifths, 282–284
relation to I, 495–496
relation to III, 264
relation to iii, 270–271
relation to IV, 270–271, 284–286
relation to V, 234–236
as substitution chord for I, 235–236
VI♯, in major, through mixture, 581
and modulation or tonicization, 643–644
♭VI, in major, through mixture, 427, 431–435, 533–535, 558–559, 583
and modulation or tonicization, 558–559, 621–623, 634–635, 641–642, 649–652
♯VI and VI♭, in major, through mixture, and modulation or tonicization, 645
submediant triad (vi), 194–205
augmented sixth chord and, 563, 570
doubling in, 199, 236
and modulation or tonicization, 570
moving to ii, 216
moving to IV or ii, 195–196
moving to V, 195–199
moving to V^6, 203–204
relation to I, 195–196, 238–239
relation to ii, 195–197, 216
relation to ii $\frac{6}{5}$, 216
relation to ii and ii^6, 197
relation to IV, 195–196, 238–239
relation to IV^6, 197–199, 238–239
relation to V, 195–199
relation to V^6, 203
as voice-leading chord, 197, 288
substitution chords
seventh chords for triads, 440
$\frac{6}{3}$ for $\frac{5}{3}$, 135–136, 202, 336
for I, 135–136, 235–236, 252, 334–336, 469
vi for I, 235–236
subtonic, 14
subtonic seventh chord ($♮VII^7$), 449–450, 615
relation to IV^7, 449
voice exchange and, 614–615
subtonic triad (♮VII), 273
in major (♭VII), through mixture, 579–580
in minor (♮VII), 264–265, 273–275
applied chords and, 471, 478
and modulation or tonicization of, 571
moving to V, 498, 508
between III and V, 497
supertonic harmony (ii), doubling in, 164–165
supertonic seventh chord (II^7), 291, 660
and mixture, 427–429, 584
relation to i^6, 212
II^6_5, 345–346
supertonic seventh chord (ii^7), 208–224
apparent, 453–454
doubling in, 209, 212
inversions of, 219–221
metric position of, 214–215
moving to V^7, 213–214
relation to ii^6_5, 209
ii^4_2, 219
II^4_3, 209, 225
ii^4_3, 217, 220
ii^6_5, 209–221
relation to vi, 216
supertonic triad (ii). *See also* Phrygian II
applied chords and, 461–463, 465, 469–471
augmented sixth chord and, 554–556, 565
doubling in, 164–165
expansion in. *see* expansion, of II
in minor. *see* triad, diminished
mixture and, 427–429
and modulation or tonicization, 485–486, 496–497, 536–537, 571
moving to cadential $\frac{6}{4}$, 182–185
moving to V, 161–178, 496–498, 515–516, 555
moving to VII^6, 169–170
over dominant pedal point, 514–515
as pivot chord, 249–251, 261
in progressions by fifths, 162–163, 195–197, 269–270, 283–284, 287
relation to I, 175, 469–470
relation to IV, 221
relation to V, 161–178, 195
relation to V^9_7, 515
relation to VI, 195–197, 216
relation to VII^7, 451–452
as voice-leading chord, 288
and ♭II, 537
$ii^{\circ 6}$
relation to iv, 264–265
$♭II^6$ and, 526–528
II^6
doubling, 166
relation to I, 162–163
relation to II $\frac{5}{3}$, 175
relation to II $\frac{6}{5}$, 209
relation to IV, 167–168, 174–175, 195–196, 267, 269–271, 284, 599
$♭II^6$ and, 530
suspensions, 43–44, 60, 67, 166, 176, 182–184, 209–210, 307, 366, 385–402
bass, 392
cadences with, 389, 397
consonant, 85, 87–89
in counterpoint, 84–95
dissonance treatment in, 182, 209, 386–393, 396–402, 403–404
dissonant, 85
with dissonant preparation, 397
double, 386
doubling in, 389–392, 393
in four voices, 388–389
implied, 400–401
indirect, 396
with moving bass, 392
parallel fifths/octaves and, 404–405
preparation for, 386, 397
resolution of, 182, 209, 386–393, 396–402, 403–404
in series, 393–396, 405, 599–600
in series and sequences, 393–396
triple, 397
upward resolving, 83, 397–398
V^9_7 and, 506, 508, 511, 513, 515
syncopation, 39, 43–44, 67, 84–90, 142, 386
syncopes, 309–311, 316, 324, 477, 599
syntax, harmonic, 175–178, 187, 204–205

tempered tuning, 13, 33
tempo, 38–39
tendency tones, 125
tension, 68
tenths, 23
parallel, 134, 139, 141, 143, 146, 150, 164, 199, 205, 222, 275, 278, 309, 312–313, 329, 344, 347, 350, 374, 405, 409, 415, 443, 446, 479, 602, 605, 629
in voice exchange, 611–619
texture. *See also* instrumental style; keyboard style
chromatic, 420, 474, 512, 601–602
figurated, 60–61, 535, 537
five-part, 441, 511
four-part, 97–113, 213, 399, 441, 527, 550, 678. *see also* chorale style
free, 92, 103–105, 111, 352, 379, 386, 396, 441, 511, 514, 560. *see also* instrumental style; keyboard style
note-against-note, 60–61, 66, 69, 75, 84, 613, 678
polyphonic, 349, 367, 387
three-part, 342, 357, 551, 678
two-part, 27, 341
third of a chord, 7, 48, 49, 59
doubling of, 99, 119, 126, 165, 212, 236, 276, 414–415, 464
mixture and, 427–428
omission of, 100, 123
Picardy third, 432–433, 438, 454
thirds, 22, 25–27, 29–31. *See also* bass line
augmented, 33
diminished

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horizontal (melodic), 33, 527, 532–533, 558–559, 565–568
vertical, 566, 594
as equal subdivisions of octaves, 624–627, 629, 637
major, 19, 25
minor, 13–14, 19
parallel, 109, 222, 344, 347, 350, 374, 386, 397, 415
progressions by, 284–287
"thirteenth chord," 400, 517–522, 673
thorough bass. *See* figured bass
"three-hand" music, 680
three-voice technique, 328
ties, 37
timbre, 24
time signatures, 38–39
tonal plan, 485, 491, 494, 498, 641, 644. *See also* motivic design
tonal relationships, 3–13
tonal system, 25–26
tonality, definition of, 18
tone of resolution, 85
tonic
closing, 119
definition of, 3–4
temporary, 246–260
tonic chord, 7
tonic seventh chord (I^7), 440, 468, 470
tonic triad (I), 7, 13, 49–50
augmented sixth chord and, 556–558, 563–564, 569, 642
beginning a sequence, in minor, 318–321
common-tone diminished seventh chord and, 591–594
diminished seventh chord and, 413–420
doubling in, 98–99, 119, 124
expanding. *see* expansion, of I
half-diminished seventh chord and, 414, 420–425
major tonic, in minor, through mixture, 432–433
minor tonic, in major, through mixture, 430
as neighboring chord, 156–157
as passing chord, 156–157
pedal point and, 406–408, 419, 452, 468, 514, 539
as pivot chord, 248–249, 259, 486–487, 490
relation to ii and ii^6, 162–163, 175, 469–470
relation to ♭II (Phrygian II), 529–530, 535, 536
relation to III, 435–436
relation to IV, 230–231, 233, 284–286, 334–337, 494–495
relation to IV^6, 168, 230, 233–234, 284
relation to V, 27, 117–121, 133–139, 168, 189, 656–657. *see also* progressions, large-scale; tonal plan
relation to VI, 195–196
relation to vi, 238–239, 495–496
relation to $VII^{\circ 7}$, 413–420, 468
relation to VII^7, 414–416, 420–421, 464, 469
relation to $vii^{\circ 7}$, 414–416, 420–421
return to, after tonicization of V or III, 252, 254, 256–257, 268–269
substitutions for, 135–136, 235–236, 252, 334–336, 469
tonic triad (i)
beginning a sequence, in minor, 318–321
return to, after tonicization of V or III, 268–269
I^6_4
nontonic function of, 181–182
replacing I^5_3, 356–357
V^7 and, 183
I^6
augmented sixth chord and, 556–558
augmented triad and, 584–586
doubling in, 135
as passing chord, 172–173, 178, 218
relation to I^5_3, 133–139, 142, 233–234
relation to II^6, 168
relation to II^7, 212
relation to III, 272
relation to IV and IV^6, 168, 230, 233–234, 284
relation to V, 132–139, 657
relation to V^7 and inversions, 148–158
relation to VII^6, 233
tonicization, 245–258, 299, 462, 471, 488–491, 568. *See also chords on individual scale degrees (tonic, supertonic, etc.)*; expansion; modulation
chromaticism and, 264, 274, 539, 569, 633–637, 638–641, 643–644, 677
of Phrygian II, 536–540, 639, 642, 644
of II, 485–486, 496–497, 536–537, 571
of III, 265–267, 275, 278, 283, 294–295, 320–321, 333, 469, 581, 606–607, 638, 642–643
of iii, 491–495, 498
of IV, 454, 485–486, 538–539
of iv, 491–492, 563
of V, 245–260, 266, 316–318, 333, 407, 435–436, 458, 485, 491–494, 498, 638, 641–642, 661
of VI, 485–486
of vi 494–496, 570
of VII, 497–498
transition, 268, 326–327, 487, 494, 559, 634, 643
transposition, 11–12, 650, 656
triad, 7, 46–57. *See also* five-three ($^5_3$) chord; six-four ($^6_4$) chord; six-three ($^6_3$) chord; *triads on individual scale degrees (tonic triad, supertonic triad, etc.)*
augmented, 48–49, 51, 58, 273, 342, 559, 584–589, 601–602, 610–611
as basic chord, 48
diminished, 48–49, 50–51, 58, 175, 319, 342, 344
inversions of, 52–57
major, 25, 48–49, 50–51
minor, 48–49, 50–52
in natural minor, 50
overtone series and, 24–26, 102
qualities of, 48–49
remembering, 57
stability of, 26–27
on II, 312–314, 599
on ii, 165–166, 175, 197, 269
on VII, 306–310
on vii, 276–277
triple meter, 38–40
tritone, 31–32, 125, 140–142, 267, 283, 474, 619, 622–623, 628. *See also* fourths, augmented
turn, 376–377
twentieth century, 6, 18, 39, 519, 620, 628–629

unisons, 22, 26–27, 77
hidden, 154
parallel, 110–111, 378–380
as passing tones, 378–380

vocal ranges, 98
voice crossing, 105–106
voice exchange, 105–106, 134, 139, 143, 217, 220, 318, 345, 419, 567, 589, 611–619, 629, 643
applied V and V^7 chords and, 460–461, 555, 617–618
augmented sixth chord and, 554–555, 563–565, 567
chromaticized, 460–462, 465–466, 482, 554–555, 563–565, 574, 611–612, 629
double, 329–330, 338, 357, 359
extended passages, 615–619
in harmonizing a melody, 146
sevenths and, 615–617, 625–626
single, 611–612
sixths in, 611–619
tenths in, 611–619
6–10, 613–614
7–10, 614–615
V and V^7 chords and, 613–618
applied, 460–461, 555, 617–618
♮VII^7 and, 614–615
voice leading, 61, 66, 72, 119–125, 140–143, 182–183, 302, 315, 342, 527, 560–563
chord construction and, 97–106, 287–288
chromatic, 585–586, 589, 595, 598–629, 676
counterpoint and, 62, 106–113
melodic line and, 62
voice-leading chords
$^5_3$ chords and, 287–288, 315
$^6_3$ chords and, 337
ii chords and, 288
parallel fifths/octaves and, 295
V chords and, 290
vi chords and, 197, 288

whole steps, 6, 31, 627–629
whole tone scale, 619–621, 627–629

Zarlino, Gioseffo, 19

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